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Baltimore. Mayor.

THE

MAYOR'S MESSAGE

AND

REPORTS OF THE CITY OFFICERS

MADE TO THE

CITY COUNCIL OF BALTIMORE

FOR THE YEAR 1894.

BALTIMORE:
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MAYOR'S MESSAGE.

MAYOR'S OFFICE—CITY HALL,

BALTIMORE, January 1, 1895.

To the Honorable the Members
of the City Council of Baltimore:

GENTLEMEN:

I submit for your consideration the following Message:

THE FINANCIAL CONDITION OF THE CORPORATION DECEMBER, 31, 1894.

Amount of funded debt December 31, 1894.....		$ 30,134,625 57
Guaranteed debt, viz.:		
Endorsement of Western Maryland R. R. third mortgage bonds.....	875,000 00	
Endorsement of Union R. R. first mortgage bonds.	117,000 00	992,000 00
		$ 31,126,625 57

Amount brought forward.....		$31,126,625 57
Of this amount interest is provided for or paid on as follows:		
Water Board on Water 1916, 1922 and 1926 Loans.....	$ 6,500,000 00	
Park Board on Patterson Park 1920 Loan.....	200,000 00	
Union R.R. Company, on first mortgage bonds.	117,000 00	
Commissioners of Finance on Western Maryland R. R. 1902 Loan.....	1,000,000 00	
Commissioners of Finance on Western Maryland R. R. third mortgage bonds.....	875,000 00	
Western Maryland R. R. Company on 3½ per cent. 1927 and 4 per cent. 1925 Loans....	2,388,000 00	
Overdue stock, no interest allowed.....	98,501 77	
		$11,178,501 77
Leaving the amount upon which interest is paid by taxation at		$19,948,123 80

ASSETS OF THE CITY.

Productive.

Mortgage on Union R. R.		$ 117,000 00	
Mortgages on Western Maryland R. R.....		2,388,000 00	
Value of sinking funds.		2,583,641 33	
550 shares Baltimore and Reisterstown Turnpike stock.....		2,062 50	
137 shares Baltimore and Frederick Turnpike stock.....		456 66	
625 shares Baltimore and York Turnpike stock.		5,000 00	
Real estate, annual rentals.....	$ 10,225 11		
Wharf property, annual rentals.....	38,000 00		
Mkt. houses, annual rentals....	50,000 00		
	$ 98,225 11		
Capitalized at 6 per cent.		1,637,085 16	
Water Works.....		10,500,000 65	
			$17,233,245 65

Unproductive.

Western Maryland R. R. Mortgages to secure endorsements of bonds and loan of city stock.....	$1,875,000 00	
Western Maryland R. R. accrued interest advanced.....	3,293,437 09	
83,000 Philadelphia and Reading R. R. third preferred interest bonds.....	83,000 00	
4,000 shares Western Maryland R. R. Stock	200,000 00	
10,000 shares Valley R. R. of Virginia Stock.	1,000,000 00	
		$ 6,451,437 09

COMPARISON OF DEBT DECEMBER 31, 1894, WITH DEBT OF DECEMBER 31, 1893.

Amount of funded and guaranteed debt December 31, 1893.....	$34,100,475 56
Amount of funded and guaranteed debt December 31, 1894.....	31,126,625 57
Decrease of debt during the year 1894..	$2,973,849 99

The decrease in the funded and guaranteed debt is thus accounted for:

Water 5 per cent. 1894 Loan, redeemed.....	$3,660,800 00	
Water 6 per cent. 1894 Loan, redeemed.....	263,000 00	
Consolidated 6 per cent. 1893 Loan, redeemed..	4,700 00	
Exempt 6 per cent. 1893 Loan, redeemed.....	14,100 00	
Consolidated 6 per cent. 1890 Loan, redeemed..	1,433 33	
Five Million 6 per cent. 1890 Loan, redeemed..	2,716 66	
		$3,946,749 99
Less new loan issued:		
Public Improvement 3½ per cent. 1940 Loan....		972,900 00
Showing a decrease in the debt of.		$2,973,849 99

Although the actual funded and guaranteed debt of the city is $31,126,625.57, the taxpayers are called upon to provide interest only on $19,948,123.80, of which $2,583,641.33 being in the sinking funds, the city pays interest thereon to itself.

The report of the Commissioners of Finance give an itemized statement of the indebtedness of the Western Maryland Railroad Company to the city.

On January 1st, 1895, the funded and guaranteed debt will be further reduced $117,000 by payment by the Union Railroad Company of the first mortgage bonds of that road endorsed by the city. The debt will also be lessened by redemption of $185,723.80 of Park Improvement six per cent. bonds, then payable. These bonds will be paid off by the sinking fund.

SINKING FUNDS.

The following table gives the value of the sinking funds held by the Commissioners of Finance for redemption of the debt. This fund is invested in ground rents held by the city, a ground rent the lease of which is held by the Western Maryland Railroad Company, and city stocks. The interest on these securities and the rents received are annually invested by the Commissioners of Finance for the benefit of the sinking funds.

Value of sinking funds December 31st, 1893...	$6,082,671 69
Value of sinking funds December 31st, 1894...	2,583,641 33
Decrease of sinking funds in 1894.....	$3,499,030 36

This decrease is thus accounted for in 1894: City stock falling due in that year was paid off by the sinking funds to the amount of.....	$3,944,033 33	
From which deduct:		
Increment of sinking funds from investments made of the income of the sinking funds.....	445,002 97	
		$3,499,030 36

INCREMENT OF THE SINKING FUNDS.

The increment of the sinking funds from December 31, 1893, to December 31, 1894, amounting to.....		$445,002 97
was derived thus:		
From interest upon investments.....	$192,124 36	
From rent of Hillen Station....$16,000 00		
Less amount set apart in sinking fund..... 2,000 00		
	$ 14,000 00	
Amt. carried forward...	$206,124 36	

Amount brought forward.		$206,124 36	
From rent of Western Maryland R. R. Terminal Company Depot....	$9,181 47		
Less amount set apart in sinking fund.....	1,311 60		
		$ 7,869 87	
From rental of real estate..		25,497 10	
From premium on sales of stock.....		84,007 50	
From City Collector for general sinking fund.....		144,731 28	
From City Collector for Internal Improvement Loan sinking fund.....		86,850 88	
From City Collector for Public Improvement Loan sinking fund.....		40,884 47	
From City Collector for Water 1926 Loan sinking fund.....		28,959 29	
			$624,924 75
From which deduct:			
Interest paid on Western Maryland R. R. 6 per cent. 1902 Loan.....		$ 60,000 00	
Amts. carried forward....		$ 60,000 00	$624,924 75

Amts. brought forward...		$60,000 00	$624,924 75
Interest paid on Western Maryland R. R. third mortgage guaranteed bonds		52,800 00	
Premium on purchases of stock		23,209 37	
Amount paid Mayor and City Council for condemnation of land for park purposes, Ordinance 84 of 1891		40,816 12	
Amount paid for accrued rent on ground rent purchased		43 33	
Amount paid for expenses for Public Improvement Loan sinking fund during 1892 and 1893 and repaid in present year		1,105 45	
Amount paid for sundry expenses	$2,433 63		
Less amount of expenses advanced Four Million Loan sinking fund	486 12		
		$ 1,947 51	
			$179,921 78
			$445,002 97

FLOATING DEBT.

Balance due on Harford Run Improvement account		$ 17,478 06	
Balance due on Park Board account		3,490 70	
Paving certificates outstanding.....		51,182 39	
Balance due on Internal Improvement loan.....	$170,386 17		
Less paving certificates outstanding against loan.	21,681 35		
		148,704 82	
Loans from banks.		1,700,000 00	
			$1,920,855 97
Less:			
Cash balance in bank December 31, 1894.....		$268,946 66	
Amount due by Water Board.		49,269 08	
Amount due by Public Improvement loan.....	$226,536 85		
Amount of paving certificates outstanding against loan.	28,669 97		
		255,206 82	
Amts. carried forward....		$573,422 56	$1,920,855 97

Amts. brought forward...	$573,422 56	$1,920,855 97
Amount due for liquor licenses for 1894.....	6,543 28	
Amount due from Belt R. R. Co., for rent of Bolton property.....	9,916 66	
Amount due from Charles Duffy & Co., for rent of Imperial Hotel.....	9,750 00	
		599,632 50
		$1,321,223 47

Of this floating indebtedness $1,121,122.43 is accounted for by the fact that we began the year with that deficiency for which no provision was made in the tax levy. The increase is thus explained:

Difference in balance due the Five Million Loan by erroneously omitting to credit certain receipts to that account.....	$ 118,000 00
Excess of expenditures over appropriations mainly in interest account and discount on taxes.....	76,000 00
Excess of estimated over actual receipts.	132,000 00
	$326,000 00
Excess of tax collections over estimated collections.....	124,000 00
	$202,000 00

These figures can be verified by the City Register's report.

As a set-off for this floating indebtedness, the uncollected taxes are:

For the first twenty wards.....	$1,614,672 45
For the Twenty-first and Twenty-second Wards.....	61,635 99
	$1,676,308 44

This addition of $200,100.04 to the floating debt is larger than was hoped for, but those connected with the administration have the satisfaction of knowing that it is caused neither by extravagant or reckless appropriations. The necessary expenses of the city, as shown in the Register's report, are annually increasing, and in the absence of a new assessment, there is not a corresponding increase of the taxable basis. The people constantly demand more improvements, to which public sentiment forces the City Council to yield.

Were it not for the liquor licenses, which in 1894 added $403,985.78, and in 1892 $390,137.89 to the revenue, the deficiency would be larger. As said in my last message, the State treats the city unjustly, "for, not content with the large annual contributions to the school fund above what we receive, it exacts over $100,000 from the liquor licenses, and over $150,000 from traders' licenses,

paid, not for doing business in or for any protection given by the State, for the city pays the cost of both police and fire departments, but for doing business in the city of Baltimore."

The principal cause of the present floating indebtedness is the additional expense of government in the Twenty-first and Twenty-second Wards over the amount received therefrom.

The Annexation Act of 1888 provides that no assessment of property shall be increased nor the then tax of sixty cents advanced until 1900. At the same time the city is not required to expend more in the annexed territory than is derived therefrom. This latter provision, as will be fully shown further on, has not been adhered to. The Mayor and City Council, with a foresight which, in my judgment, any business corporation under similar circumstances would exercise, has provided liberally for improvements in the new wards. To do this the outlay may be inconvenient and, in one sense, a burden by temporarily increasing the municipal debt. But private improvements thus encouraged, followed by large increase in actual land values of what is now called suburban property, will, when the time limit of present assessments and the sixty cent tax rate expires, result in an addition to our taxable basis that will be surprising, if properly assessed. When this addition is then submitted to the city tax rate the good judgment of those who favored annexation will be fully vindicated.

The following statement will show how a large part of the floating debt has accumulated. It indicates that had the old city limits been retained, a moderate tax levy, even with the increased demand for improvements, would have met the required expenses.

The Annexation Act was passed in 1888.* I give the receipts and expenditures for the six following years; the figures can be verified by the accounts in the City Register's Department.

	Receipts.	Expenditures.
1889	$ 88,201 00	$ 251,434 96
1890	137,326 77	178,872 34
1891	149,499 35	352,849 05
1892	168,930 35	291,346 51
1893	148,684 54	344,292 22
1894	179,401 08	312,172 51
	$872,043 09	$1,730,967 59

Showing an excess of expenditures over receipts in the Twenty-first and Twenty-second Wards of $858,924.50; to this must be added the cost of the addition to the police force authorized by the Act of 1888, and made by the Board of Police Commissioners as soon as annexation was effected.

45 Patrolmen, $ 936 00 per annum	$42,120 00
9 Sergeants, $1,040 00 per annum	9,360 00
5 Detectives, $1,196 00 per annum	5,980 00
Keep of fourteen horses and cost of replacing, from time to time, accoutrements for mounted men, incidentals, etc., estimated	2,442 00
	$59,902 00

This is $61,000 per annum which for six years is $359,412, and added to $858,924.50 is $1,218,336.50, nearly the full amount of the floating indebtedness.

In addition, annexation resulted in an actual annual loss of revenue in receipts from tuition fees in public schools for non-resident pupils. It abolished the extra water rents paid by non-residents, and required large expenditures for extension of water mains. But notwithstanding all this, in my judgment, Baltimore in 1900 will realize that the extension of its limits was the best investment it ever made. I advocate therefore a liberal provision for proper improvements in the new wards.

What shall we do with the floating indebtedness? To provide for it in the tax levy will be an addition to the burden on city property, to which the section immediately benefited will not be called on to contribute. As said in my last Message, the heroic way is to face it and pay it off; not all at once, but gradually by submitting to a larger annual tax rate, and determining to resist all applications from the public for expenditures beyond a fair estimate of revenue. By 1900 this course, if rigidly followed, will result in a clean balance sheet. We shall then deserve thanks from our fellow-citizens in the new wards for giving them a number of necessary and profitable improvements without asking any contribution to the cost.

In my judgment, before provision is made for disposing of this debt by levying for its payment or funding it, there should be a proper reassessment of property to know exactly how we stand and what are our real resources.

In 1894 when I proposed consideration of heroic treatment by levying for and paying it, there was a general expectation of legislation at Annapolis in connection with a new assessment. This having failed, and as 1895 is an "off year," circumstances under which the consideration of such action was suggested will not again arise until 1896. Nor can the question of funding the debt be decided until the next meeting of the General Assembly. I do not now recommend the addition to the tax levy of 1895 necessary to pay off this debt. This, in my judgment, would be too burdensome on the taxpayers, and should not be done in the absence of a new assessment. The remaining alternative is to curtail expenses as far as practical, pay off some of it by a small increase of the levy, carry the balance, which, with the credit and resources of the city, there will be no difficulty in doing, and under no consideration provide by an increase of expenditures over receipts to add to it.

An impression seems to prevail with some, ignorant or forgetful of the past, that the present floating indebtedness is unprecedented in the history of the city; this is a mistake. In 1868, when our resources and

revenue were much less than now, and when the population, by the census of 1870, was only 267,599, there was a similar debt of $2,004,261.95, of which $1,700,000 was funded under authority of Ordinance No. 1, 1868. In 1874, under the provisions of Ordinance No. 6 of that year, a similar debt of $2,000,000 incurred for temporary water supply, improvement of ship channel, etc., etc., was funded. As comparisons are sometimes made in connection with municipal government in other cities, although, in my judgment, they prove little, my attention was attracted in reading his last message, sent to me a few days since by Mayor Olney, of Providence, R. I., a city having the reputation of being exceedingly well and economically governed, with a population, in 1890, of 132,000, about one-fourth the size of Baltimore, to its funded and guaranteed debt, on September 30, 1894, of $13,873,250, and its floating debt of $2,089,884.27.

No better evidence of the good credit of our city and the confidence of the community, in the fact that its government is reasonably well conducted, can be given than the high price which its securities command in that most sensitive of all institutions, if it may be so called, where sentiment, love, friendship or even politics never enter, the money market.

RECEIPTS AND EXPENDITURES.

The report of the City Register gives the receipts from collections of taxes and other sources applicable to the support of the municipal government for 1894, and also a full statement of all disbursements.

RECEIPTS—ACTUAL INCOME.

From City Collector, levy of 1894	$3,702,486 01	
From City Collector, levies of previous years	1,381,981 23	
From City Collector, interest on arrears of taxes	34,951 10	
		$5,119,418 34
Jail, fines and removed cases		15,169 51
Bay View, Mount Hope and Maryland Hospital		2,922 12
Ice-boats		1,713 94
Health, Fire Department and Street Cleaning Department		6,561 20
Inspector of Buildings		11,032 00
City Commissioner		13,042 85
General Superintendent of Lamps		2,932 75
Market houses and halls		52,060 85
Wharfage and rent of wharves		27,489 96
Interest on deposits and other sources		2,195 25
General licenses		64,672 14
Liquor licenses		403,985 78
Auction duties		8,368 72
Telephone conduits		4,635 80
Rent of city property		549 16
Sale of old material		5,942 76
Public schools tuition fees and Plummer legacy		4,171 95
Sundry items		879 77
		$5,747,744 85

In 1893 the receipts were $5,105,477.63. This shows an increase of receipts in 1894 of $642,267.22, mainly due to increase of tax levy, which in 1893 was $1.55 and in 1894 was $1.70.

In addition to the above-named receipts the following amounts were received by the city treasury, most of which were applicable to special purposes:

State of Maryland for public schools	$214,726 14
City Passenger Railroads park tax	225,804 35
Western Maryland Railroad, interest on loans	124,110 00
Tax sales	3,247 77
Water Board	754,005 87
Ryan & McDonald, damages to City College	22,500 00
Sale of old material for opening streets	13,749 88
City Collector, opening and closing streets	82,477 24
" " paving streets	5,223 14

The report gives an exact statement of the cost of the city government and for what purposes the money so required was expended.

CITY COMPTROLLER'S DEPARTMENT.

The report of this excellent officer gives an itemized statement of all municipal receipts and disbursements, and also full information in connection with appropriations and expenditures under the Five and Six Million

Loans. The report is so full in its details, and copies thereof can be so readily obtained by those seeking information in this connection, that there is no necessity of extending the length of this message by more than commending its thorough examination to your honorable body. The system of keeping accounts is admirable, and every care is taken in the examination of bills presented for payment.

COLLECTION OF TAXES.

The City Collector's report gives the following statement of receipts from taxes for 1894: Total collections in the city, including Twenty-first and Twenty-second Wards, $5,719,478.80, of which the city's portion was $5,207,118.71, and the State's $512,360.09. Of these collections the city's portion in the old wards was $5,027,717.64, and in the Twenty-first and Twenty-second Wards $179,401.07. In 1893 the city collections in the old wards was $4,311,527.19, and in the new $148,-684.54. The collections for 1894 for the old wards are analyzed as follows:

On account of taxes in arrears	$1,356,436 05
On account of levy of 1894	3,583,581 21
Opening, closing and widening of streets	82,477 24
Paving streets	5,223 14
	$5,027,717 64

A comparison can be made with the collections in 1893 by an examination of the following table of that year:

On account of taxes in arrears	$1,084,015 46
On account of levy of 1893	3,122,216 03
Opening, closing and widening streets	105,296 42
	$4,311,527 91

Collections for city in the Twenty-first and Twenty-second Wards for 1893 were $148,684.54.

In making the comparison it must be noted that the tax rate for 1893 was $1.55 and for 1894 was $1.70.

On the levy of 1894, present basis $292,090,946, the collections from May to December 31st inclusive, amount to $72\frac{17}{100}$ per cent. Deducting amount of plant exempt from city taxation, the percentage collected amounts to $72\frac{96}{100}$ per cent. In 1893 this basis was $290,309,113, on which the collections were $69\frac{38}{100}$. In 1892, basis $280,031,266, collections $73\frac{49}{100}$. In the Twenty-first and Twenty-second Wards in 1894 the basis was $28,631,531 and the collections $69\frac{23}{100}$ per cent. In 1893 the basis was $27,748,787 and collections $63\frac{87}{100}$. In 1892, basis $27,262,596, collections $74\frac{16}{100}$. The tax rate in the new wards fixed by the annexation bill was 60 cents, at which it will remain until 1900. The report gives full details of the work of the department,

the business which, in my judgment, is most efficiently conducted. It calls attention to the fact that the collection of taxes in arrears exceeded the estimate made in the beginning of the year by $127,000.00.

APPEAL TAX COURT.

The report shows that the number of permits for the erection of new buildings in 1894 in the first twenty wards was 1,425, and improvements 514, with an assessed value of $4,459,850. In the Twenty-first and Twenty-second Wards permits were issued for 1,002 new buildings and 146 improvements, with an assessed value of $1,154,425. In 1893 the number of new buildings in the old wards were 1,723 and improvements 532, with an assessed value of $3,342,275. In the Twenty-first and Twenty-second Wards there were 664 new buildings and 259 improvements, with an assessed value of $936,-350. This shows that while the number of buildings erected in the old wards was 298 less than in 1893, the value in 1894 was $1,117,575 more. In the new wards the number of buildings increased 338 and the value increased $218,075.

The figures given in the report show the principal increase of buildings to have been in the outlying wards. In the First, Seventh, Eighth, Seventeenth, Eighteenth, Nineteenth, Twenty-first and Twenty-second Wards the new buildings were, respectively, 194, 313, 120, 115, 130, 278, 571, 431. This is due, in a measure, to the facilities of rapid transit offered by the

cable and electric railways, aided in the new wards by the 60-cent tax rate.

The amount exempted by the Court in 1894, under the provisions of the ordinances exempting plant of manufacturing establishments from taxation, was $1,173,599. In 1893 it was $1,422,524.

The total abatements in the first twenty wards made by the Appeal Tax Court in 1894 exclusive of plant was, real estate, $1,222,558; personal, $3,515,740; total, $4,738,298.

In the Twenty-first and Twenty-second Wards, real estate, $138,951; personal, $144,662.

TAXABLE BASIS.

The taxable basis in 1894 and 1893 was as follows.

	Real Estate.	*Personal Estate.*
January 1, 1894, taxable basis	$222,727,625 00	$74,101,619 00
December 31, 1894, less abatements	1,222,558 00	3,515,740 00
	$221,505,067 00	$70,585,879 00

In the Twenty-first and Twenty-second Wards:

	Real Estate.	*Personal Estate.*
January 1, 1894, basis	$23,409,624 00	$5,505,520 00
December 31, 1894, abatements	138,951 00	144,662 00
	$23,270,673 00	$5,360,858 00

Showing a total basis in 1894:

In the first twenty wards	$292,090,946 00
In the 21st and 22d Wards	28,631,531 00

In 1893 taxable basis in first twenty wards was as follows:

	Real Estate.	*Personal Estate.*
January 1, 1893, basis	$217,533,759 00	$76,556,051 00
December 31, abatements.	1,055,158 00	2,725,539 00
	$216,478,601 00	$73,830,512 00

In the Twenty-first and Twenty-second Wards:

	Real Estate.	*Personal Estate.*
January 1, 1893, basis	$21,855,285 00	$6,148,521 00
Dec. 31, 1893, abatements.	40,119 00	214,900 00
	$21,815,166 00	$5,933,621 00

Showing a total basis in 1893:

In the first twenty wards	$290,309,113 00
In the Twenty-first and Twenty-second Wards	27,748,787 00

A comparison of these figures will show a total increase in the first twenty wards in 1894 of $1,781,833, that is, an increase of $5,026,466 in real estate, and a decrease of $3,244,633 in personal.

In the Twenty-first and Twenty-second Wards a total

increase of $882,744, that is, an increase of $1,455,507 in real estate, and a decrease of $572,763 in personal.

NEW ASSESSMENT NECESSARY.

The statement above shown indicates either that the people are rapidly disposing of their personal property, or that we are experiencing the same difficulty here as elsewhere in discovering it for purpose of taxation. To avoid this, some policy should be adopted in the framing of an assessment law which would permit the assessment of coupon bonds or similar personal securities, of which there is undoubtedly a large amount held in this community, at a rate that would be in proportion to the income received therefrom, instead of at the market value of the security.

A holder of a coupon, bond or personal security, paying from four to five per cent. interest on the par value, the market value of which is from one hundred and two to one hundred and eight, or even higher, will make every endeavour to conceal it from the assessor rather than be subjected to a tax on an assessment at the full market value that would reduce the income derived therefrom nearly one-half. Such an assessment in connection with the income is out of all proportion to a proper assessment in connection with income made upon real estate. The result is either to drive such property into hiding places or out of the jurisdiction of the city. A new assessment of real and personal prop-

erty, based upon principles, practical as well as just, is imperatively demanded in Baltimore. There has not been a general assessment of property here since 1876. No other city in the country has permitted so long a period to elapse without a general revaluation of property. We do not know what is our true taxable basis. Values of real estate have changed within the past nineteen years in every section of the city. Much of it is largely over-valued, and on the other hand in many cases it is under-assessed.

To further postpone the enactment of a general assessment law is not only unjust to the people, but unfair to any administration intrusted with the management of the affairs of this great city. It is to be hoped that this matter will be properly settled by the next legislature. If the General Assembly would, in framing its assessment bill, permit Baltimore to make its own assessment, I am sure that an ordinance could be framed which would do full justice to both State and city.

The next legislature must realize that a new assessment has become a necessity, and is demanded by the public.

COMMISSIONERS FOR OPENING STREETS.

With Mayor's Suggestions in Connection With Widening Gay Street and Opening Whitelock Street.

The report of this department gives a full statement of its proceedings in connection with the opening of

streets during the year 1894. The most important street in this connection is Gay street, the widening of which, between Exeter and Jones Falls, was provided for by ordinance approved October 17, 1892. For this, as shown in the report, the amount assessed to the city is $134,148.35. This ordinance has been strongly urged by property holders of that neighborhood, and, in my judgment, would prove a great improvement. Like the narrows of East Baltimore street, the curtailment in the width of this most important business thoroughfare, especially since the double tracks of the City Passenger Railway have been laid, greatly interferes with public convenience. In drawing the ordinance providing for distribution of the proceeds of the Six Million Loan, $300,000 was set apart for the opening and widening of streets. Of this amount, as shown by the Comptroller's report, $48,994.97 has been expended for widening Union Dock and $79,405.37 for opening McCulloh street, a total of $123,400.34, leaving a balance of $171,600—enough to pay the city's portion of the cost of widening Gay street. I respectfully recommend that so much of this balance as is necessary be applied to this purpose. If after the appeals have been settled a sufficient amount should remain, provision should be made therefrom; or, if not sufficient, the balance should be so applied, with an additional appropriation, to the opening of Whitelock street from Linden avenue to North avenue, under ordinance approved October 22, 1889. The cost assessed to the city is $19,150.85. An

inspection of this proposed street opening will show the value to the city of the improvement.

HEALTH DEPARTMENT.

The cost of this department in 1894 in the first twenty wards was $106,160.42, including $4,607.08 for removing garbage and other nuisances from docks and harbor, and $5,000 for carrying off canning house refuse by water, also $19,890.24 for the Quarantine Hospital, and $2,750 for food inspection for six months. In 1893 the total cost was $99,364.10. In the Twenty-first and Twenty-second Wards the cost was $6,543.96, in 1893 it was $6,074.49.

The total mortality was 9,486, of which 7,242 were white and 2,244 colored. The death rate for the year, based upon a population of 455,427, the police census of 1890, was 20.80 per thousand; for whites 18.85 and for colored 31.60. The report says, "If the death rate per thousand was computed as in other cities, upon an estimated population instead of the police census of 1890, it would show a rate of 19.04."

The following figures giving death rate per thousand for last five years is an evidence of the good health of the city and efficiency of this department. In 1890 the death rate was 22.41; in 1891, 22.13; in 1892, 21.77; in 1893, 20.99, and in 1894, 20.94. The report gives much valuable information on the subject of zymotic diseases,

and shows the large proportion of deaths in the rate caused by diphtheria, 198; scarlet fever, 85, whooping cough, 112; typhoid fever, 222; consumption, 1,106; pneumonia, 790; cholera infantum, 440.

There were no deaths in Baltimore from either small-pox or yellow fever, although eighteen cases of small-pox were reported. Dr. McShane ably reviews the subject of anti-toxine treatment for diphtheria lately introduced in Europe and this country. He also refers to the necessity for the establishment of a hospital for contagious diseases. In this connection it is proper to say that an ordinance, approved April 14, 1893, appropriated $35,000 for this purpose, and appointed a commission, consisting of the Mayor, Comptroller and Health Officer, to select a site and erect a suitable building. The difficulty was obtaining a proper site; the people in every section of the city regarded the location of what they called a "pest house" as an injury to property and a threat to the good health of the neighborhood. Opposition of every kind met the commission, except in localities which were so distant or so unsuitable as not to commend their selection. My own judgment is that the best thing in this connection would be to put such a hospital at the old quarantine grounds; there the land belongs to the city, and the present buildings could be repaired at a moderate cost and made amply suitable for the small number of such patients requiring treatment.

Full details are given of the beneficial results of the inspection of milk and food products provided for by ordinance approved May 16, 1894. Reference is also made to the necessity of a system of sewerage for sewage matter, and to the importance of considering the question of adopting some improved method for disposal of garbage. Many cities are considering the question of cremating garbage.

It also recommends the enactment of laws providing for more stringent regulations in the care and conduct of dairy stables and slaughter-houses. Baltimore is certainly far behind other cities in this connection.

QUARANTINE HOSPITAL.

The report states that 503 vessels entering the port have been inspected during the year, of which 287 were steamers. In 1893 the number of vessels inspected was 662. This indicates how the general depression of business has affected the commerce of Baltimore.

The cost of maintaining this hospital was $19,890.24, and the receipts paid into the city treasury $5,648.57. Only three vessels were detained, and the number of patients treated only 24, most of which were sent from the city. Five patients died. Attention is again called to the necessity of making some disposition of the old Quarantine Hospital.

An admirable disinfectant plant has been erected

during the year under provisions of ordinance approved May 3, 1893, which appropriated $8,000 for that purpose. In this connection the Quarantine Officer says and it has my full endorsement: "The building of this plant became necessary to comply with the regulations promulgated by the United States Treasury Department, and should do away with the Marine Hospital Quarantine at Cape Charles, which has been in operation for the past two years and which has caused great expense, unnecessary delay, and unjust discrimination to the shipping interests of this port."

FIRE DEPARTMENT.

The report of the Board of FireCommissioners demands special attention, gives full details of the cost and management of this important branch of the city service, and also recommendations for its increased efficiency. The force consists, as in 1893, of 16 steam fire-engine companies, 9 hook and ladder companies, 7 chemical engines, 1 fire-boat, 1 water-tower, with 304 officers and men. While comparatively a small department, it is thoroughly disciplined, and as effective as its numbers will permit. As an indication of the smallness of the force, compared with that of other cities, I select a few statistics from the Chief Engineer's Report:

Boston has 40 engine companies, 17 hook and ladders, and 10 chemical, with 2 water-towers and 1 fire-boat. St. Louis, 35 engines, 13 hook and ladders, and 4 chem-

ical companies, with 1 water-tower. Cincinnati, 26 engines, 10 hook and ladders, and 3 chemicals. Detroit, 20 engines, 6 hook and ladders, 6 chemical, 1 fire-boat and 1 water-tower. Buffalo, 23 engines, 9 hook and ladders, 4 chemical, 1 fire-boat and 1 water-tower. I omit New York with its 63, Chicago 76, and Philadelphia 41 engine companies. These figures and those showing losses in other cities compared with our own, reflect great credit on the bravery, discipline and vigilance of the officers and men of this department, the excellence of the apparatus, and thorough training of the horses. It also entitles the suggestions made by the Commissioners to full consideration. Two engine-houses, known as 17 and 19, and one hook-and-ladder house, No. 10, have been completed and are ready for occupancy. An appropriation is necessary for purchase of apparatus and salaries of the required number of men and officers. A lot has been purchased at Walbrook. Provision should at once be made for erecting the necessary building. This is a rapidly increasing neighborhood and requires protection from fire. I fully endorse the recommendation of the Board for authority to purchase a building within the city limits for the care of injured and sick horses, and where newly purchased horses could be trained and fitted for service. It would be a measure of economy and greatly aid in the proper equipment of the department. I also endorse the recommendation of changing the present system of substitutes for that of a body of

ten or twelve probationers, who shall be paid $500 each, be regularly in service, and from whose ranks all vacancies in the regular department shall be filled. Very good reasons are given in this connection in the reports of the Board and of the Chief Engineer.

I also agree with the recommendation that the electrical department should be under the supervision and direction of a skilled electrician, and suggest that provision should be made for employment of such an officer. In the language of the report, "a competent electrical engineer could be obtained for a comparatively small salary, and it would add greatly to the efficiency and economy of the department." There are other suggestions in connection with increased powers being conferred upon the Board which should be carefully considered. The cost of maintenance in 1894 was $349,-781.29 in the first twenty wards, and $45,515.61 in the Twenty-first and Twenty-second Wards. The estimates for 1895 will be found in the report.

The report of the Superintendent of Police and Fire Alarm Telegraph, which is embraced in that of the Board of Fire Commissioners, gives a detailed statement of the work done in that department. It also gives statements showing condition of the Quarantine line, Water Board line and Bay View Asylum line, which are under the charge of that officer.

WATER DEPARTMENT.

The net revenue from water rents, water supplies, plumbing bills, etc., for 1894 was $751,180.10. This is exclusive of $3,110 special appropriations by the Mayor and City Council, and $57,944.80 received from water tax provided in the levy.

In 1893 the net revenue from same sources was $764,-552.37. A comparison shows a falling off of $13,372.27. This is due to reduction in receipts from plumbing bills, which in 1893 were $58,384.27, and in 1894 $45,553.06; the large amount received in 1893 being mainly for work done for the cable roads. The collections from water rents exceeded those of 1893 by $974.72, but there was a falling off of $5,469.81 in the meter rents.

The disbursements for 1894, including $445,086.81 interest on water stock, and $49,628.33, cost of a new pumping engine, was $742,793.81. The disbursements for 1893 aggregated $898,083.06, which amount included the expenditure for completion of Guilford Reservoir and the work at Lake Clifton, especially the repairs required by a break in the distributing mains from Clifton, which alone cost the Department over $100,000. By comparison of the two years' disbursements it will be seen that $155,289.25 less was expended in 1894.

The redemption of the four millions of water bonds

due in 1894 saved the Water Board in interest in that year $67,543.32. The loan thus paid by the Sinking Fund consisted of $263,000 of six per cent. bonds, and $3,737,000 of five per cent. bonds. The annual payment of interest of which the Board will thus be relieved is $202,630.00. But this new income will not provide for the contemplated improvements. It is proposed to extend water mains throughout the Twenty-first and Twenty-second Wards, requiring a new high service reservoir, with the necessary pumping machinery, to supply the territory situated north and west of Druid Hill Park, and also to increase the size of the mains in those portions of the old city where a larger supply is needed. For this purpose, as recommended in my last Message, authority was obtained from the Legislature and City Council, since ratified by the people at the last election, for a new loan of two millions. These improvements are now receiving the earnest attention of the Water Board. The Board is considering a more extended use of meters, especially with large consumers. This system will be fair to the city and to the water user, in that it will enable the former to charge for what it gives, and the latter to pay only for what is actually consumed. It will also prevent the excessive waste of water, which not only calls very heavily on the distributing mains often to the inconveniences of parties using the same main, but in winter, with our surface drainage, interferes with the convenience of the general public by the carelessness of consumers in uselessly

permitting water to run to waste on the street when the thermometer is below the freezing point.

STREET CLEANING DEPARTMENT.

The report shows the amount expended for street cleaning, collecting and removal of garbage and ashes, including $9,500 paid contractor for taking garbage from city, was, in the old wards, $324,171.13. The appropriation having been $354,973, there was an unexpended balance of $30,801.70. In 1893 the cost of this work, including $48,696.84 of a special appropriation of $50,000 for removing snow in the winter of that year, was $359,896.91. In the Twenty-first and Twenty-second Wards the appropriation for similar work for 1894 was $26,085, and the amount expended $24,474.89. In these wards in 1893 the cost was $22,735.14.

During the year a patrol system with small iron hand carts was introduced for service on streets paved with smooth asphalt. This it is proposed to further increase. This system with the sweeping machines, which have done very successful work, has largely aided in maintaining the cleanliness of the city. The number of complaints in connection with removal of garbage and want of clean streets has largely diminished during the past year.

The department now employs 157 sweepers and

scrapers, 69 street carts, 8 sweeping machines, 5 sprinklers, and 158 garbage carts. The hire of the horses, harness and drivers for sweepers and sprinklers is given after public advertisement to the lowest bidder. During the past year this cost was $3 per day for the sweepers and $2 per day for sprinklers.

The Commissioner again calls attention to the fact that he is held responsible for the working of the department, with no power of appointment or removal of the men who perform the services. He recommends that this system be changed. This recommendation was made in every Message I have sent to the City Council since 1882, when the present rule was established. Now the men who work on the street are appointed and removed at the pleasure of the District Superintendents, without any control or power of interference by the head of the department. This is certainly not a business way of conducting the work. No man should be employed without the approval and consent of the General Superintendent, who would thus be the actual as well as the nominal head of the department. In no other way can proper discipline be enforced. In fact, the General Superintendent should have the appointment, with the written approval of the Mayor, of the District Superintendents, instead of the Mayor and City Council. He could then be held entirely responsible for the full and proper performance of his duties.

Attention is called to the fact that the contract for removal of garbage from the city was made July 1, 1894, for three years, at $9,400 per annum. No provision has been made for the payment for this service for the six months ending December 31, 1894.

In June, 1894, a contract was entered into, after due advertisement, for purchase of street dirt for the year from the first and second districts. There were no bidders for other districts. The amount received and paid to Comptroller in 1894 for sale of ashes and street dirt was $679.17. Interesting statistics, giving cost in detail of the street-cleaning, etc., will be found in the report.

Ordinance No. 46, approved March 22, 1893, prohibits throwing on the streets any rubbish, including litter, paper, sweepings or refuse of any kind. A very strict enforcement of this ordinance will greatly aid in keeping our thoroughfares clean.

GENERAL SUPERINTENDENT OF LAMPS AND INSPECTOR AND SEALER OF GAS METERS.

This department has charge of lighting the city, and, in addition, the inspection of gas meters. In the first twenty wards there are 5,118 gas lamps, cost of gas, $1.25 per 1,000 feet; 1,036 electric arc lights at 35 cents per light per night; and 484 gasoline lamps at $10.68 per lamp per annum. In the Twenty-first and Twenty-second Wards there are 676 gas, 563 gasoline, and 3

electric lights, costing the same as in the old wards. There are 111 lamplighters in the old wards and five superintendents, and in the new, 34 lamplighters and one superintendent. The lamplighters are paid $8.00 per week, and superintendents $12.50 in the old, and $18.00 in the two new wards. In the old wards the cost of electric lamps in 1894 was $126,298.49; of gas, $141,878.27; of gasoline, $6,539.11; a total of $281,715.87. The cost in Twenty-first and Twenty-second Wards was, electric light, $484.75; gas, $16,640.74; gasoline, $6,367.91; a total of $23,493.40. The cost in the whole city being $305,209.27, to which must be added the pay of the lamplighters, $64,506.00; in all, $369,715.27 per annum to light the streets of Baltimore. Notwithstanding this large outlay, continued complaints are made that there are not a sufficient number of lamps, especially in the new wards, and the Inspector recommends an increase. This means more lamplighters, for many of those now employed cannot get over their large beats in time to give satisfaction.

In the Twenty-first and Twenty-second Wards the demand for more light, owing to the rapidly building up of that section, will have to be favorably considered. There is no contract with the Gas Company, the city purchasing its gas on the same terms as private consumers. With the electric light companies a contract was made under provisions of an ordinance approved May 21, 1894, for five years. It is well to consider the

question of offering to make a contract for gas for a a fixed period, provided a reduction could be obtained in the cost, and an agreement to lay a certain length of mains each year if required by the city. This would enable us to increase the number of lights and to get rid of many gasoline lamps, and if the reduction in price in view of a time contract was reasonable, to prevent a very material increase in outlay for the additional lighting. This suggestion is made without any conference whatever being had with the Gas Company on the subject.

The report gives the receipts of the office as $2,472.75 for inspecting gas meters and $460 for damages done to lamps—a total of $2,932.75. The number of meters inspected was 9,104. The business of the office is conducted by the General Superintendent and one clerk. The report suggests a separation of the work of inspecting and sealing gas meters from that of the Superintendent of Lamps, and requests the appointment of a committee of the Council to examine into the working of the department for the purpose of giving consideration to this suggestion.

PUBLIC SCHOOLS.

The number of schools in 1894 was 179; of which 165 were day, with 1,557 teachers and 59,808 enrolled pupils. Fourteen were night schools, with 69 teachers and 2,215 pupils. In addition to the above teachers, there are 2

special teachers of music, 13 of drawing and 15 of sewing. Total number of pupils, 61,023, under 1,626 teachers. Average attendance at day, 49,125, and at night, 1,037. The whole number of pupils exclusive of duplicate enrollments, attending the schools during the year was 78,275. There was during 1894 an increase of 2,760 pupils in day, and 1,013 in night schools—a total of 3,773. The number of non-resident pupils was 164, who paid for tuition and books, $3,557.45; average cost of pupils, $18.37; average salary of teachers, $564. In 1893 average cost was $18.55; average salary, $572.29.

FINANCIAL STATEMENT.

The total appropriation made for the current expenses of the schools for the year 1893 by the City Council was $1,150,815; of which sum $1,012,515 was for the first twenty wards, and $138,300 for the Twenty-first and Twenty-second Wards.

The total amount expended was $1,110,316.02; of which $973,825.25 was for the schools in the first twenty wards, and $136,490.77 for the schools in the Twenty-first and Twenty-second Wards; thus leaving an unexpended balance of $40,498.98.

RECEIPTS.

The total receipts from all sources for current expenses were as follows:

City Collector, taxes	$914,086 04
State Treasurer	214,726 14
Non-resident pupils, for tuition books	3,557 45
John F. Plummer	114 50
Forfeited check of Mr. Wilson	500 00
	$1,132,984 13

This is the largest amount ever received for the use of the schools, the receipts from the City Collector being $120,427.55 more than during the year 1893.

EXPENDITURES.

The total amount expended by the Board for current expenses was $1,110,316.02, and by the Inspector of Buildings for new houses and repairs of old ones was $96,913.15, as follows:

For salaries, in the first twenty wards	$784,788 90
Rent of houses	5,353 75
Books and stationery	51,803 98
Heating apparatus	9,441 77
Furniture	15,756 12
Fuel	29,804 30
Repairs and cleaning	13,577 50
Incidentals, printing, etc	12,081 24
Polytechnic Institute	30,896 46
Colored Manual Training School	8,782 83
Night-schools	11,538 40
Total in first twenty wards	$973,825 25

Amount brought forward		$973,825 25
ANNEXED SCHOOLS.		
Salaries	$110,682 45	
Sundry expenses	25,808 32	
		$136,490 77
Total expenditures in all the wards		$1,110,316 02

The amount expended by the Inspector of Buildings was as follows:

In the first twenty Wards:		
On account of new building, Western Female High School	$35,226 34	
On account of general repairs of school houses	15,000 00	
On account of sanitary and other improvements	6,500 00	
On account of English-German School No. 6, new house	3,541 48	
On account of addition to Colored Manual Training School	600 00	
		$60,867 82
Amount carried forward		$60,867 82

Amount carried forward.....		$60,867 82

Annex Schools.

Annex School No. 15, new house at Walbrook.....	$23,971 99	
Addition to No. 9 house, Calverton.....	2,889 34	
General repairs of school houses.....	4,250 00	
Heating, Smead System in No. 9.....	2,000 00	
Heating, Smead System in No. 15.....	2,934 00	
		$36,045 33
Total amount expended in Annex.....		$96,913 15

The report states: "The salaries of our superintendents, teachers and officers of the Board are less than are paid elsewhere, and the total cost of our public schools, both for current expenses and school houses, is therefore much less than the cost of maintaining the public schools in other large cities."

For the year 1895 the report gives the following requirements: The estimate for current expenses of the schools for 1895 is $1,210,590, of which $160,700 is for Annex schools, as follows:

Salaries	$825,000
Rents	10,000
Books and stationery	54,000
Heating apparatus	12,000
Furniture	30,000
Fuel	33,000
Repairs and cleaning	14,000
Incidentals, printing, etc	15,000
Night schools	15,000
Polytechnic Institute	33,490
Colored Manual Training School	8,400
Total for first twenty wards	$1,049,890

Annex:

Salaries for Annex schools	$128,500	
All other expenses Annex schools	32,200	
		$160,700
Total estimate for all schools		$1,210,590

In this connection the report states:

"The above estimate is greater than the amount expended last year, but is reasonable in view of the certain large increase in the number of pupils, which necessarily requires the appointment of more teachers and the purchase of new furniture, books and other school supplies. The increase in the number of pupils was larger than during any previous year in the history of the

schools, and the probability is that there will be a much greater addition during the year, indicating the increasing popularity of the public schools."

SCHOOL HOUSES.

In connection with this subject the report says:

"There are 122 buildings occupied by the schools; of which 93 are owned by the city and 29 are rented; and the amount paid for rent during the year was $8,918.59.

"In addition to the above-mentioned rented buildings which are used by the schools, there are two others; one of which is used for the public school library and the other for storage of furniture.

"There are about 4,500 children in these rented buildings, because there is no room for them in the school-houses belonging to the city.

"This is an unfortunate condition for the teachers and children and should not be allowed to continue.

"The Board regrets the necessity for using any rented buildings, as they are usually old dwellings or halls, are unfit for school use, and detrimental to the health of both teachers and pupils. Of course it is impossible for these schools to peform their work as satisfactorily and successfully as those which have better facilities in regular school-houses. The proper remedy for this evil is the erecting of more school-houses until the existing wants are fully supplied.

"It is true that the Board might ascertain the seating capacity of the present school-houses with due reference to the health of the pupils, and when these seats were all occupied the rule might be adopted, which exists in some other cities, that no more pupils shall be admitted and no halls or dwellings shall be rented for school use. This plan would necessarily exclude several thousand children from the public schools, and would probably create ill-feeling among parents and cause severe criticism of the city authorities for supposed neglect to provide the necessary school-houses.

"The Board has desired to avoid this criticism, and therefore has continued the temporary use of rented houses, with the hope that this statement of the condition of some of the schools will enable the city authorities to appreciate its reason for asking additional appropriations from year to year for new school-houses.

"It is hoped that larger appropriations will hereafter be made, so that the new school-houses may be of sufficient size to accommodate not only the present number of pupils, but also the yearly increase.

"Several years ago, at the suggestion of the Board of Commissioners, the Mayor and City Council passed an ordinance authorizing the issuing of $500,000 public school bonds, to be applied to the erection of new

school-houses. Application was made to the General Assembly of the State for its approval of this ordinance, but, for some unexplained reason, the Senate did not give its assent and the bonds were not issued.

"In view of the necessity for a number of new houses at this time, it might be desirable to again ask for the issue of bonds for this purpose, which would relieve the city of special annual taxation for new houses, and would distribute the burden of their cost among those who will enjoy the benefit of them in future."

I have given the above statements from the report of President Morris, that your honorable body may be fully informed of all details connected with the expenditures and requirements of the public schools. The cost of this department exceeds one-fifth of all the money annually received from collection of taxes. The importance of its proper administration by the selection of suitable members of the Board of Public School Commissioners is thus brought directly to your consideration.

The five and six million loan each provided four hundred thousand dollars for the erection of school houses. This amount has been exhausted by appropriations made for such buildings. In the absence of any further issue of bonds for this purpose all new buildings contemplated must be provided for in the tax levy.

INSPECTOR OF BUILDINGS.

The Inspector's report shows that the amount expended by the department was $209,322.23. In 1893 it was $122,927.23. The net revenue was $10,676.24. In 1893 it was $9,089.11; in 1892, $8,064.21, and in 1891, $7,354.11; thus showing a steady increase. One school house (No. 15, Annex,) in Walbrook has been completed. The Western Female High School, corner of McCulloh street and Lafayette avenue, and buildings for No. 6 English-German, corner Ramsay and Smallwood streets, and No. 36 Primary, corner of Howard and Winder streets, are in process of erection; No. 10 Colored, corner of Girard avenue and Sherman Place, will be commenced within the next sixty days; new engine houses No. 17, corner of Fort avenue and Haubert streets, and No. 19, corner of North avenue and Bond streets, and new Truck House No. 10, Lafayette avenue, near Stricker street, have been completed. Necessary repairs have been made to public buildings, market houses and City Hall; a disinfecting house and plant erected at the Quarantine Hospital, and the Battle Monument cleaned. Full details of all this work are given in the report with the cost thereof, to which the attention of your honorable body is respectfully invited.

In addition to this work two hundred and twenty-two dangerous walls, and two hundred and eleven chimneys have been directed to be repaired, and two hundred and

forty-three notices issued to builders who proposed to violate the building law of 1891. The inspector again suggests, in which I fully concur, that larger school-houses should be erected. It would be more economical by obviating the necessity of constant additions to old buildings. During the past year more attention has been given to the architecture of the public buildings. There is no reason why good taste and appearance should not be considered in the erection of school and engine-houses, as well as proper interior accommodations.

BALTIMORE CITY COLLEGE.

In connection with the above report it will be interesting to know that the plans and specifications for the new City College building have been prepared and proposals for its erection advertised for. The amount at the disposal of the commission, consisting of the Mayor, Comptroller and President of the School Board, after the purchase, as directed by ordinance of 1894 for $50,000, of the Mann lot on Howard street, is $150,000, to which is added, by Ordinance No. 123, approved July 2, 1894, $22,000, amount paid by Ryan and McDonald for damages to the present building. This sum of $172,000, in addition to the value of the old material on the lot, will, it is hoped, provide for the erection of the new college in accordance with the plans adopted. If not, I shall ask an additional appropriation, as, in my judgment, it would be a mistake to curtail the accom-

modations which the architects, Messrs. Baldwin and Pennington, have provided, after careful consideration and full consultation with Professor Soper, Principal of the College, and President Morris, of the School Board. In the matter of erecting the Western Female High School, Ordinance No. 121, approved July 2, 1894, made an additional and, in my judgment, proper appropriation of thirty thousand dollars rather than curtail the accommodations provided in the plans adopted by the same commission for that building.

HARBOR BOARD.

For the purpose of harbor improvements in 1894 there was appropriated $81,500, which, in addition to $1,713.94, received from Harbor and River Relief Board with the transfer of the ice-boat *Annapolis*, made a total of $83,213.94. The balance handed over with the *Annapolis* was less than amount of bills for electric light, wharfage, etc., due by that boat at the time of its transfer.

The expenditures of the department were $75,512.61.

The amount of dredging was from harbor, channels, Back Basin, docks and Middle Branch, 186,224 cubic yards, from Jones' Falls, $35,228 cubic yards; average price paid contractors was for harbor, etc., $13\frac{89}{100}$ and Jones' Falls 35 cents per cubic yard. Total, including all costs of general administration and supervision,

operation and repair of tug *Baltimore*, surveys, etc., were for account of harbor, etc., $34,314.38, and for Jones' Falls, $15,000. The results are given in detail in the report showing that whole area covered by dredging operations was 1,277,100 square feet. There was removed of deposit, 221,452 cubic yards. The average depth of cutting was 4 feet 8 inches.

ICE-BOATS.

By Act of Assembly at its last session, the control of the ice-boat *Annapolis*, built jointly by the State and city, was transferred on June 1, 1894, from the Harbor and River Relief Board to the Harbor Board. Extensive repairs have been made on the ice-boat *Latrobe* (now sixteen years old). The hull and machinery is now in as good condition as when first built, but the wood work is much decayed, requiring repairs and, where necessary, renewal. The *Annapolis* is in excellent condition. The expenditures on both boats was $23,649.66. Neither boat has been required during the year for breaking ice. The *Latrobe* made 12 trips under direction of the Free Summer Excursion Society, carrying 15668 persons to and from Chesterwood. The report gives details of repairs done to city wharves, including that at the foot of Charles street which was generally renewed for the use of the Naval Reserve. The ashes from tug-boats, as required by ordinance, was provided for to the extent of 49,818 bushels deposited

on the city scows by 74 boats. Most of this was put behind the sea wall at the old Quarantine Hospital. I respectfully suggest that provision for dredging the Basin be made as soon as practicable, in order that this necessary work may be done before the warm weather.

JAIL.

The Board of Visitors have managed this institution well and economically during the past year. No city can show better results in connection with the control of a prison. Of the appropriation, $55,000, the sum of $54,110.31 was expended. In addition the Board has returned to the City Comptroller $6,877.40 received from labor of prisoners and various sources, details of which are given in the Warden's report, reducing the actual cost of management to $47,232.91. In this is included the introduction of an electric light plant, costing over $2,500. The number of commitments was 11,516; of which 8,264 were for drunkenness and minor offences. The daily average of prisoners was 538. In 1893 the commitments were 11,232; drunkenness and minor offences, 8,341; and daily average 496. The health of the prisoners has been good and properly cared for by the physician, the well-known citizen, Dr. Milton N. Taylor. There were only two deaths in the Jail during the year, one of which was caused by consumption. Full details are given in the report of the efficient Warden, Mr. Daniel Constantine, which I send herewith.

BAYVIEW ASYLUM—CARE OF THE POOR AND INSANE.

On December 31, 1894, there were 1,641 inmates in the asylum; admitted during the year, 3,854; born, 16; a total of 5,511; average number, 1,345½. On December 31, 1893, there were 1,648 inmates and 3,937 admissions during the year; an average of 1,289. In 1894 the total expense of maintenance was $104,999.71; cost *per capita*, $76.95. In 1893, total expense, $97,297.16; cost *per capita*, $74.19 This institution is admirably and economically managed by its efficient Board of Trustees. Full details are given in the report.

A large number of the inmates belong to the class of indigent insane, most of which are chronic cases, the care of which should be undertaken by the State, as is done elsewhere, and not imposed upon the city.

I have in former Messages referred to what I thought was the duty of the State in this connection. The subject has lately been ably treated in a pamphlet published by Dr. E. N. Brush, physician-in-chief of the Sheppard Asylum of Maryland. He says: "Much discussion has been expended on what is best for the chronic insane, and, I believe, lasting honor has been achieved by those States, which, like New York, have resolved that none of this class shall longer languish in almshouses." I fully agree with him.

In addition to maintaining Bay View Asylum, the city

provides for maintenance of a number of insane patients at Mount Hope and Spring Grove Asylums. In 1894 $33,000 was paid to the former and $24,000 to the latter—a total of $57,000.

The following statement gives the number of free beds maintained by the city in the different hospitals, with the amount paid to each:

FREE BEDS IN THE SEVERAL HOSPITALS.

	Beds.	*Amount Paid.*
Maryland University Hospital	60	$ 9,301 48
Hospital of the College of Physicians and Surgeons	100	16,900 00
Maryland General Hospital	55	8,712 14
Baltimore University Hospital	40	6,627 17
Good Samaritan Hospital	20	2,518 71
St. Joseph's Hospital	30	5,070 00
Maryland Homeopathic Hospital	20	2,894 82
St. Agnes' Hospital	30	4,278 78
Total	355	$56,303 10

This is an average of $3\frac{25}{100}$ per bed per week.

The above statement shows an annual expenditure of $218,302.81 for care of the poor. This is in addition to the amount appropriated for dispensaries.

LAW DEPARTMENT.

The report of the City Solicitor gives a full statement of city cases tried, settled and pending in the courts. While several small cases, a list of which is given, have been settled without trial, no hostile verdict has been recovered against the city in any of the numerous damage suits instituted against it. Many of the cases decided in favor of the city have not only involved large amounts, but also legal questions which establish important precedents. The War case in the Court of Appeals reversed a judgment against the city for $12,000 and saved what would have been doubtless heavy adverse verdicts in five other suits for injuries from the same accident. In the Van Wyck case the Court of Appeals decided that property discovered after the levy was made could be placed on the tax books. In the Deems case the validity of the ordinance authorizing the seizure and destruction of milk by the Health Department was sustained. In the Postal Telegraph case the ordinance imposing the license fee of $2 on electric light and telegraph poles was declared valid. In the Ulman case the Court of Appeals upheld the validity of the ordinance by which the assessment was levied on the Ulman property bounding on North avenue.

The Brickill case, for alleged infringement of a patent for heating apparatus used in steam fire-engine houses,

the Safety Insulator Co. case, for alleged breach of contract, and the Filbert case, for alleged infringement of patent, all three involving large claims for damages, have been won by our law officers. The case of the Lake Roland Elevated Railroad Company *vs.* the Mayor and City Council is now pending in the United States Supreme Court, the question involved being whether or not the grant to lay double tracks on Lexington street, between Charles and North, by an ordinance passed by the Mayor and City Council,was an irrepealable contract or a revocable license. The Court of Appeals with a full bench of seven judges had decided in favor of the city. It was taken to the United States Circuit Court, where Judge Goff, dissenting from Judge Morris, reversed this decision. It has now been appealed to the Supreme Court. This is a most important case, involving, as it does, the right of the Mayor and City Council to control the public streets. Many other important cases are before the courts, all of which are fully reviewed in the report. The City Attorney has in his charge alone, fifty-seven cases to which the city is a party either as plaintiff or defendant.

EXAMINER OF TITLES.

An important branch of the law department is that of the examination of titles. The experienced officer who fills this position gives in his report details of the work done during the year. He again recommends that

no ordinance should be passed for the opening of a single square on the line of a proposed new street in any vacant section of the city, neither should any more ten-foot alleys be opened, as such narrow alleys subserve only private, not public interests.

CITY LIBRARY.

The excellent report of the Librarian gives in detail a statement of the business of his office. This is a valuable department and frequent use is made of its facilities, containing 27,551 volumes of manuscripts and printed documents. It furnishes a complete history of the city government and carefully preserves all records connected therewith from the formation of Baltimore Town in 1729 to the present day. Valuable additions, of which a list is given in the report, were made during the year by the purchase of rare volumes at very moderate prices, relating to the early history of the city and State, advantage being taken to make such acquisitions of executors' sales of libraries of prominent citizens. In this way the full series of the Laws of Maryland from 1637 to 1894, and Baltimore City Directories from 1802, are now on the shelves. Among other duties, the Librarian purchases annually by open competition all supplies of stationery for the city departments. The contract price for stationery was $9,549.51. The report recommends, in which I concur, an annual appropriation of $500 for the purchase of such maps and documents

connected with the history of the city as opportunity may from time to time offer. More book-cases and shelves are needed to accommodate the constantly increasing number of volumes and papers. I respectfully suggest that this matter be referred to a special committee.

UNDERGROUND SUBWAYS FOR ELECTRIC WIRES.

Ordinance 49, approved April 16, 1894, appointed the Mayor, Register and President of the Board of Fire Commissioners a commission, with power to appoint "an engineer and electrical experts as in their judgment may be for the best interest of their work; and, after having made the necessary surveys and plats, adopt a proper plan, and contract for the construction of necessary subways and cables for an underground system for such wires." For this purpose one hundred thousand of the two hundred and twenty-five thousand dollars provided in the Six Million Loan for such a system was appropriated. The Commission selected as its engineer Mr. N. S. Hill, Jr., whose intelligent report is herewith submitted. It is impossible within the limits of this Message to more than refer to the full information, valuable to us and other cities, contained in this document. All details of the progress of this work, the character and material selected for the conduits and cable and the plan adopted are given. The contract for the conduit was awarded, after open competition, to the White-Crosby Company for

$59,792.61, and the work commenced October 3, 1894. Proposals for the cable will be advertised for hereafter. The result of placing these wires underground will not only improve the efficiency of this necessary adjunct to the Fire Department, but be a measure of economy by removing the wires from danger of injury to the system by contact with electric light or trolly wires. This danger was illustrated during the year in damages costing the city between five and six thousand dollars resulting from such accidental contact, burning out the apparatus in the office of the Police and Fire-Alarm wires.

Ordinance No. 41, approved May 9, 1889, authorizing the Chesapeake and Potomac Telephone Company to construct conduits for its wires under the streets, not only required an annual payment to the city of thirty cents per lineal yard for the first four miles and twenty cents for each succeeding lineal yard of such conduit, but required space therein to be provided, free of cost, "for a cable for the exclusive and official use of the Police and Fire-Alarm Telegraph and Police and Patrol wires." This has largely reduced the cost to the city of putting its wires under-ground. The length of the conduit now being laid by the city will be 96,037 feet, embracing the area bounded by Caroline street on the east, Madison on the north, Fremont on the west and Hamburg and the water front on the south. I endorse the recommendation in the

report, that a further appropriation from the $225,000 provided in the Six Million Loan be made for extending the conduits now being constructed, so that it can be done under the organization of which Mr. Hill is the engineer. In this connection the time has arrived when the power conferred upon the Mayor and City Council by the Act of Assembly, Chapter 206, approved March 30, 1892, should be exercised, and all telegraph, telephone, electric light or other wires, with the exception of the trolley wire, for which no successful subway system has yet been devised, be required to get underground. This has been done in other cities, notably New York, Chicago and Washington, and there is no good reason for not relieving our streets from unsightly poles and network of overhead wires. There are three methods to be considered: Either to require the companies to construct the conduits, or to avail themselves of conduits constructed by a private corporation by permission of the Mayor and City Council, or for the city to construct conduits and then require the telegraph and other corporations to make use of it, paying therefor a certain annual rental.

This subject has been fully reviewed by Mr. Hill in his report. The Act of 1892, above referred to, gives to the city ample power in the premises, including the appointment of an Electrical Commission, with such powers and duties as the said Mayor and City Council may deem necessary or appropriate to carry out the

work. I, therefore, suggest the passage of an ordinance constituting the present Construction Committee of the Underground System of Police and Fire-Alarm Telegraph and Police Patrol such an Electrical Commission. It can then avail itself not only of the experience already acquired by its members in this connection, but also of the knowledge and experience of its present Engineer, in devising a proper system. It can also prepare the suitable form of legislation, to be submitted, if necessary, to the next Legislature and to the Mayor and City Council, with a well-digested plan.

If the city is to construct and control its own conduits, which I am inclined to think is the best way, then it will be necessary to obtain authority from the Legislature to issue the bonds to provide for the cost. Should this be determined upon, the interest on such bonds would not be a charge on the city tax rate, as it would be met by the amount derived from the rentals, authorized by the Act of 1892, to be charged for compulsory use of the conduits.

As the members of the present Commission are the Mayor, the Register and President of the Board of Fire Commissioners, of which the latter has been chosen president, it would be manifestly unfair to impose this additional responsible duty upon that officer without adding to the present compensation of $1,000 per annum which he receives as a member of the Fire Board.

I shall prepare and submit for your consideration an ordinance embracing the views above set forth. I am sure the public will welcome any proper legislation promising the removal of telegraph poles and overhead wires. I shall also submit an ordinance providing for extension of the present work of underground conduits for Police and Fire-Alarm wires.

SEWERAGE.

Attention has frequently been directed to the necessity of a general system of sewerage for sewage matter. As stated in my last Message, a mistaken idea prevails in connection with the purpose of important and expensive sewers constructed in recent years. Many suppose they are intended for sewage matter, and should therefore form a part of such a system. This is not the case. They are for storm-water, to take the place of natural water courses necessarily existing upon the surface of the ground on which the city has been built. Sewers for sewage matter should be entirely disconnected from storm-water sewers. These latter empty into the Basin, Spring Gardens or Jones' Falls, all of which are being polluted by the sewage drains which from time to time are allowed to connect with them. The immediate effect of such connections with storm-water sewers emptying into the Basin is not so manifest, because the depth of water and continuous dredging materially abates what would otherwise become an intolerable and dangerous nuisance; but in Jones' Falls and the

Spring Gardens, where the water is sluggish and shallow, such pollution cannot be continued without threatening public health. And yet the city is rapidly growing in districts where these drains cannot be connected with the storm-water sewers emptying into the Basin, even if it was contemplated to continue the Basin as the general cesspool of Baltimore. Hence the condition must be confronted, that a system of sewage sewers has become a necessity. In recognition of this fact a Commission was appointed, consisting of Messrs. Mendes Cohen, Henry T. Douglas and Frank H. Hambleton, engineers of acknowledged reputation, to consider and report upon the best system to be adopted. The report is submitted herewith. It states that the Commission has now prepared the necessary maps and obtained such data of the district comprised within the city limits as will enable it to carry out the original intention of calling "to its aid the services of consulting engineers whose experience in sewerage work will enable them to advise intelligently as to the best means of collecting and finally disposing of the sewage upon the most improved and economic lines, so that it shall cause offence neither to our own people or to others." The cost thus far of the work of the Commission, its members serving without pay, has been $3,231.97, leaving a balance of $1,768.03 of the $5,000 appropriated. A further appropriation of $20,000 is asked for. I recommend that it be granted. The magnitude of such a system as will eventually have to be adopted and its importance re-

quire that no mistake should be made in the adoption of a proper plan. To get this the best talent in the country upon this subject must be availed of. It cannot be had without adequate compensation. I am sure that the deserved confidence the public have in the *personnel* of the Commission is an assurance that any appropriation made in this connection will be properly and judiciously expended, with results satisfactory to the public.

TOPOGRAPHICAL SURVEY.

An ordinance approved October 7, 1892, authorizing the issue of the Six Million Loan, set apart $125,000 to be expended in making a geodetic and topographical survey of the city. The Mayor, Comptroller and Register were constituted a commission by ordinance approved April 26, 1893, to prescribe and approve the general method of the work. Major Henry T. Douglas was appointed its chief engineer, with a sufficient corps of assistants. It is now in progress and the report of the engineer submitted herewith, and which has already appeared in full in the public press, indicates what has already been accomplished. Engineers of national reputation, who have examined the maps, many of which, as shown in the report, will soon be available for public use, have certified to its thoroughness, excellence and moderate cost. A reference to the ordinance of 1893 will show that when completed it will embrace all the territory within the present city limits. To the tax

office it will be productive of most important results in facilitating the location of property and permitting lots advertised for sale for taxes in arrears to be described by number and reference to the plat, instead of, as now, by metes and bounds, thus saving expense to the delinquent taxpayer already burdened with interest and bailiffs' costs. To the City Commissioner's Department it will be most useful in the future construction of sewers, laying out of streets, establishment of grades, etc., and to the conveyancer and examiner of titles in facilitating the transfer of property, by enabling lots to be designated by a number and reference to the plat. In fact, its value can scarcely be estimated, and, as said in my last Message, "those connected with the administration inaugurating it will always have the satisfaction of knowing that it is seldom more important legislation is enacted for the general benefit of the community." The unexpended balance of the appropriation on December 1, 1994, as shown in the report, was $23,547.08. To fully complete the survey, with all the records and maps, the Engineer estimates, will require an additional appropriation of $62,000. He states that "the work can be done in the field to best advantage during eight months of the year. It is not desirable to have too large a force in the field at one time." He therefore thinks that the work will be done more economically by extending it over the years 1895 and 1896, and asks an appropriation of $31,000 for each of those years. I,

therefore, respectfully suggest that you appropriate $31,000 to carry on the work during 1895.

CITY PASSENGER RAILROADS.

The Comptroller's report shows that the receipts from the park tax of nine per cent. on the gross receipts from city passenger railroads was in 1894, $221,458.99. In 1893 it was $212,924.58. These receipts are set apart by ordinance for the purchase, maintenance and support of public parks and squares. In 1890 the original park loan of $550,000 for purchase of Druid Hill Park was paid, as have been all other loans issued from time to time for improvement and extension of Patterson Park, excepting the four per cent. loan of $200,000, due October 1, 1920. On October 19, 1860, at the inauguration of Druid Hill Park, Mayor Swann said in his opening address: "For the first year of the operations of these railroads the bonus paid into the city treasury was $33,000, and the increase, as shown in the last quarter, gives earnest of a revenue from this source of $50,000 to $75,000 per annum." Far-seeing as he was, he did not realize that the then population of 212,418 would in 1895 be over 500,000, the area of the city be more than doubled, the horse car be replaced by the cable and electric, and the revenue from the park tax, although reduced from 20 to 9 per cent. of gross receipts be $221,458.99. Baltimore has shown more wisdom than other cities in requiring some return for the use of

public thoroughfares for railway purposes. It is to be regretted that other municipal franchises and privileges have not been made sources of revenue instead of being given away. The constant demand of corporations for additional railway privileges, subject to the same tax, is an evidence that they are desirable, and the high price of securities of existing companies indicate that the franchises are very valuable. It must not be forgotten in this connection that the revenue paid into the city treasury by these railroads is large, and therefore they should not be hampered by oppressive legislation, but receive legitimate and reasonable encouragement from the municipality and not be subjected to unnecessary competition. For two reasons it is unwise to encourage the construction of further parallel lines. First, the public are entitled to the use of some streets for driving purposes or for location of private residences, where household quiet shall be free from interruption by noises of a rapid transit road. Secondly, such paralleling injures the business of corporations in whose profitable management the city is pecuniarily interested, without a corresponding public benefit. The Mayor and City Council should carefully consider applications in this connection in the central part of the city. Rapid transit is a public improvement, but do not permit it to be overdone. Even in the new wards, where land is not so closely built upon, the occupants of buildings hereafter erected on newly-opened and to-be-opened streets and avenues will be entitled to have some

of those streets and avenues unobstructed by cable and electric roads. I also suggest that in granting additional franchises it would be well to consider their value to the corporation seeking them. Therefore, why not let the city derive a pecuniary benefit from the grant by requiring the successful applicant to pay a bonus to the city treasury for the use of the streets?

CLIFTON PARK.

The Four Million Loan ordinance authorizes the purchase of the Clifton estate for park purposes. It has been ratified by a popular vote, and an ordinance is now before the City Council providing for its acquisition by condemnation. I respectfully suggest its early and favorable consideration. In my judgment this addition to our public pleasure grounds will add greatly to the future prosperity of the city. The advancement in the values of adjacent property that will rapidly follow will add materially to the increase of the taxable basis. Druid Hill, Patterson and Carroll Parks have shown what Clifton Park will do for the northeastern section of Baltimore.

WESTERN MARYLAND RAILROAD.

The large interest the city has in this road induces me to present a full statement of its indebtedness to the Mayor and City Council, as follows :

First Mortgage Bonds held by Commissioners of Finance	$43,500 00	
Interest thereon from July 1, 1892	6,525 00	
		$ 50,025 00
Second preferred Mortgage Bonds held by Commissioners of Finance	$178,500 00	
Interest thereon from July 1, 1892	26,775 00	
		205,275 00
Accrued interest on Second Mortgage endorsement redeemed January 1, 1887		333,000 00
Third Mortgage endorsement	$ 875,000 00	
Interest thereon to December 31, 1894	1,260,000 00	
		2,135,000 00
Fourth Mortgage to secure loan of city stock	$1,000,000 00	
Interest thereon to December 31, 1894	1,350,000 00	
		2,350,000 00
Fifth Mortgage to secure loan of city stock	$1,704,000 00	
Interest thereon from July 1, 1892	138,450 00	
		1,842,450 00
Amt. carried forward		$6,915,750 00

Amount brought forward.....		$6,915,750 00
Loan of city stock under Ordinance No. 71, of 1882.	$684,000 00	
Interest thereon from July 1, 1892.....	68,400 00	
		752,400 00
Funding certificate, being amount of matured coupons of first and second preferred mortgage bonds, funded as per Ordinance No. 22, of 1879.....	$226,530 00	
Interest thereon from January 1, 1892.....	40,775 40	
		$267,305 40
Coupons from first mortgage unendorsed bonds.....	$71,742 00	
Interest thereon to December 31, 1891.....	69,511 69	
		141,253 69
		$8,076,709 09
Less:		
Value of Western Maryland Railroad 1925 Loan Sinking Fund.....	$ 60,543 92	
Value of Western Maryland Railroad 1927 Loan Sinking Fund.....	125,630 52	
		$186,174 44
		$7,890,534 65

It is very gratifying, as an evidence of stability of earning capacity, that during the past two years, covering one of the most trying periods in the experience of the railroads of the country, that the Western Maryland has been able to hold its own, as evidenced by the reports of net earnings for 1893 and 1894, which, as compared with 1892, the year next preceding the period of financial and business depression, show an increase of $8,520.76 for 1893 and of $6,797.57 for 1894.

The company is now paying interest to the city upon the unredeemed portions of the first and preferred second mortgage bonds and the funded and unfunded coupons from these bonds owned by the city, aggregating $520,272; on the improvement loan of $684,000, and on the fifth mortgage of $1,704,000. In other words, the company is paying interest upon all its outstanding obligations except the original third and fourth mortgages, the first amounting to $875,000 and the latter to $1,000,000, upon both of which the city is still paying six per cent. interest under its guarantees.

As these mortgages mature in 1900 and 1902, respectively, it will be seen that by providing for the principal of these loans, as will have to be done under its guarantees, the city will be able to reduce the company's fixed charges $21,875 in 1900 and $25,000 additional in 1902, or a total of $46,875 in 1902; or which, in other words, would reduce the amount now paid by the city for the company from $112,500 to $65,625 per annum.

As the company, however, is now making payments ranging from $125,000 to $150,000 per year upon floating indebtedness, which should be fully liquidated long before the maturity of these mortgages, the day would not seem distant when the company will be able to entirely relieve the city from the balance of the payments now being made under its guarantees.

While the arrangements between the Western Maryland Company and other roads for the use of certain tracks in this city were probably the best and only ones that were practicable when they were entered into, the time seems to have arrived when the company should have some relief from the heavy cost of the use of these facilities.

The establishment of a station, as now contemplated by the company, at the crossing of North avenue west of Fulton Junction, for the accommodation of that rapidly growing section known as Walbrook, will probably serve another important object, as by the use of the electric elevated railroad thence to the City Hall, in the very heart of the city, with intermediate connections with nearly every other rapid transit line of the city, exceptionally good facilities will be provided for a very large portion of Western Maryland travel.

The company having reserved the right, in its contract with the other roads, to construct a line to the south side of the harbor, which line could furnish the

road local freight facilities adjoining those of the York River Line on Light street, the building of what is known as the "Southside Line" from the vicinity of the proposed Walbrook Station to Light street, with intermediate connections with the lines of the Baltimore and Ohio Railroad, would seem to be a very feasible and opportune first step for the company to take in the way of providing independent facilities in this city, and which of itself would do much to relieve the road, and likewise the city, from the heavy charges now paid for the use of other roads. The independent position which would thus be given the company in the matter of making competitive rates between its terminal and other points would enable it to secure a very large volume of low-class freight which is now prohibited by the present trackage charges. While what is known as the "Northside Line" doubtless possesses great merit in affording independent access to Hillen Station and the eastern section of the city, work upon that more costly undertaking could be deferred for a time and the use of the tunnel continued as a means of reaching Hillen Station.

PUBLIC PARKS.

The Park Commission has charge of the following parks and squares:

Druid Hill Park, 700 acres; Patterson Park, 106 acres; Federal Hill Park, 8 acres; Riverside Park, 17 acres;

Carroll Park, 19.72 acres; Johnson Square, Collington Square and Mount Royal Terraces. These, together with other public squares in charge of local commissions, are maintained from the revenue derived from the park tax on the city passenger railroads.

The amount applicable to the maintenance of parks in 1894 and expenses were as follows:

Balance on hand January 1, 1894	$ 2,378 16	
Receipts from city passenger railroads	221,458 99	
Receipts from rentals, sales, fines, etc	4,345 36	
		$228,182 51
Disbursements:		
Interest on Patterson Park Extension Loan	$8,000 00	
Maintenance and improvement of all parks and squares	216,691 81	
		$224,691 81
Balance on hand January 1, 1895		$3,490 70

In 1893 the revenue from city passenger railroads was $221,331.53, and in 1892, $193,327.55. The Traction Railroad and the City and Suburban both contest

the right of the city to collect the park tax on such portions of their respective roads as are in the Twenty-first and Twenty-second Wards. This question is now before the court for settlement. The Park Commission, in its report, and that of its engineer, gives full details of all work done during the year.

The improvements in connection with the extension of Patterson and Carroll Parks, full descriptions of which are given in the report, will add greatly to the attractions of these pleasure grounds. The management of this department is most excellent, and the people are indebted to the members of this unpaid commission for the faithful discharge of the duties imposed upon them.

It is to be hoped that during the year 1895 our new Clifton Park will be committed to their care. With this addition no city will have more beautiful or better managed pleasure-grounds.

CITY COMMISSIONER'S DEPARTMENT.

This department, to quote from my last Message, has charge of all grading, paving and repairing streets, construction of bridges and sewers and all city work of that class. Mr. A. E. Smyrk is Commissioner, with Engineers Hook, Duvall and Kahler as assistants. Its work is often subjected to criticism, but I believe a fair investigation will show that it is as well and economically

done as in any and better than in most cities. The cost of all labor, as well as the manner of its employment, being regulated by city ordinance, of course affects the price of the work.

I have before recommended that the storm-water sewers, the most important and expensive improvements made under the department, and also repaving with improved pavements, be subjected to an impartial examination by a competent engineer. I suggested Captain Feeburger, U. S. A., who was employed by the Paving Commission. His professional and army standing, as well as his familiarity with work of this kind, would guarantee a report satisfactory to the much-abused officials of this department. To save expense the examination might be confined to the largest sewer and the longest repaved street. The report of the City Commissioner is very full, giving the extent and character of the work, with amounts appropriated and expended.

PROPOSED REORGANIZATION OF THE DEPARTMENT.

The present organization of this department was established in 1863, when Baltimore's population was 212,000. The work, expenditures and responsibilities were insignificant then in comparison with that of the last ten or fifteen years. In 1875 the appointment of two assistant commissioners was authorized. Until 1893 the original salaries of the Commissioner ($3,000

per annum) and his assistants ($1,500) were unchanged. Then the latter were raised to $1,800. Since the mayoralty of Mr. Banks, in 1867, there have been three Commissioners, Messrs. Tegmeyer, Wilkinson and Smyrk, appointed respectively by Mayors Banks, Whyte and Hodges. Only one or two changes have been made in the assistants, except by death or resignation, since 1878. Much important work has been done under the department. It has superintended all paving of streets, establishment of grades, construction of bridges, sewers, culverts, drains, etc., etc., during the past thirty years. It has had charge of all the important work for which special appropriations were made under the improvement loans since 1875, among the latter, the new drawbridge on Block street, the iron bridges over Jones' Falls at Pratt, Gay, Baltimore, Lexington, Chase, Biddle, North, Calvert, St. Paul and Charles streets, the long bridge at foot of Marshall avenue and the great stone bridge on North avenue. Some of this work was under supervision of the Jones' Falls Commission, composed of the City Commissioner and the Mayor. Under its supervision have been laid the forty-five miles of improved pavement on our streets and been constructed the important storm-water sewers, notably the Harford Run sewer, an expensive improvement, costing, in round numbers, one million of dollars. Part of this work has been done by contract, but the majority, exclusive of bridges, was required by law to be done by labor employed by the city. A comparison between the sewers

and that portion of the retaining walls of Jones' Falls built by contract, with that done by the city, will show to any judge of such work that the latter, while more expensive, as the price paid by the city is regulated by law, is much better. In addition to the above, the laying tracks for the cable roads, requiring as it did tearing up and replacing many miles of improved and other pavements, the erection of all poles for telegraph, electric light and trolley wires, and even the construction of the Belt railroad tunnel where the surface of streets was displaced, was required to be done under supervision and to the satisfaction of the City Commissioner. It is needless to say that all this imposed heavy responsibilities on that official and required the exercise of much firmness, discretion and good judgment to see, in connection with his last-mentioned duty, that while the companies were not delayed, the public should not suffer more inconvenience than was absolutely necessary.

The larger part of all this important work has been done under Commissioner Smyrk and his assistants. The department has done its best under the present organization. I have, however, long thought that the increased growth of the city required its reorganization. My Message to the Council in 1880 was, therefore, accompanied with the draft of an ordinance which proposed to place the entire business of the City Commissioner's Department under the control and management

of an unpaid commission. After referring to the important work then in progress, it said: "The executive business of the office would still be carried on, as now, by a city engineer and his assistants, who should be appointed by the Board and subject to its control and management."

A similar recommendation for reorganization was made in my Message of 1881, and in every annual Message I have since had the honor to send to the City Council. My immediate predecessor, Mayor Davidson, also suggested a reorganization. The same reasons set forth for such action in 1880, when our population was 333,000, apply with greater force when the population is over 500,000 and the city's area has been more than doubled by annexation. After consultation with President Smith, of the Second Branch, the ordinance, since introduced by him, was prepared, and is now submitted for your consideration. The only material change from that of 1880 is that instead of an unpaid commission of six it provides for a Board of Public Works of three members to be paid for their services, with the Mayor a member *ex-officio*. It also gives to the Board entire control over the Street Cleaning Department, with power to appoint the general and district superintendents. Under the general powers given, the Board would also be authorized to provide for a registration of all applicants for manual city work to be engaged in under its supervision. I commend it to your earnest consideration.

STREET PAVING.

The City Commissioner's report gives the mileage of improved pavements laid in 1894 as follows: Belgian blocks, 8.24; asphalt blocks, 0.34; mosaic pavement, 0.37; vitrified bricks, 0.2. There was no sheet asphalt laid during the year. The contract cost of asphalt blocks is $2.50 and of sheet asphalt $2.70 per square yard. The Belgian pavement laid by labor employed by the city varies in cost with the street on which it is put down, costing more on the narrow streets where rapid transit roads are in active service and where there is continuous business traffic. Full details in this connection are given in the report.

The mosaic pavement composed of granite blocks of unequal size, but offering a smooth surface, was laid on Madison street, between Charles and Eutaw, at a contract cost of $1.70 per square yard. Referring to the mosaic, the report says: "It has been extensively used in Richmond, Va., and is the best of its kind, equaling in durability the granite block pavement used in Baltimore." After some experience I consider that granite blocks for streets with heavy traffic is the only suitable pavement. Where the travel is light sheet asphalt or asphalt blocks give a smoother surface, is noiseless and in dry weather furnish a good driveway. In damp or freezing weather both are slippery. Their lasting quality is uncertain, but neither kind of asphalt will last until the time for which the bonds issued to pay the cost will mature.

Much of the asphalt pavement laid in Baltimore was warranted for two years. In this connection the report says: "Broadway, on which the time limit was two years, expired December 17, 1894. I examined the street from end to end and found it in as good condition as when laid."

Granite pavement well laid is very long-lived. That on Light street, put down in 1873, subjected to very heavy travel and repaired only once, is still in fair condition. I consider good vitrified brick an excellent pavement for light travel. We have a specimen on St. Paul and Chase streets. It gives a smooth surface, is noiseless, and not as slippery as asphalt.

In 1894 we laid 8.97 miles of granite blocks. If more pavements are to be laid, the entire cost of which is to be paid for by the city with the proceeds of city bonds, I suggest that it be of such a character as to be at least somewhat in the nature of a permanent improvement. This is accomplished by making them either of Belgian or Mosaic granite blocks.

The cost by day's labor for granite pavements is, as I have said, higher than if laid by contract. Whether the ordinances now in force requiring more of that character of work to be done by the present plan shall be amended so as to have the work contracted for remains with your honorable body to decide. I suggest that the

ordinances providing for sheet asphalt, of which one is yet to be executed, providing for continuing the improved pavement on Broadway from Preston street to North avenue, be amended so as to permit Bermudez asphalt to enter into competition with Trinidad, now required in the ordinance. I make this recommendation from the fact that Captain Feeburgur, the United States Engineer in charge of paving in Washington, D. C., after a trial of a year, suggests that it be used in that city. Hitherto Trinidad asphalt has been the only material used in other cities for asphalt pavements, experience having proved that it was best for the purpose. The Mayor and City Council had, therefore, a fair reason for confining the proposals to Trinidad asphalt at the time the ordinances in that connection were passed. Buffalo, where more sheet asphalt is laid (150 miles) than in any other city, and where the cost of new pavements is paid for by the abutting property-holders, has heretofore generally used Trinidad asphalt, at a cost of $3 per square yard, including kerb setting. Exclusive of the kerb it is $2.76 to $2.77. A report, dated May 21, 1894, from the Paving Commission appointed under ordinance approved October 14, 1893, gives much useful information in connection with this subject.

NEW COURT-HOUSE.

The report of the Commission having in charge the erection of this building is herewith submitted. The site, bounded by Lexington, St. Paul, Calvert and

Fayette streets, has been secured at a cost of $339,438.33. There is still outstanding a claim made by the lessee of the Imperial Hotel, which is now before the court. In answer to proposals there were some seventy plans offered. The names of the competing architects being unknown until the selection was made, it was gratifying to find that the design chosen proved to be that of Messrs. Wyatt and Nolting of this city. The working drawings are now being made, and by the coming April or May the Commission hope to be in a position to ask for proposals for erecting the building. The material, whether granite or marble, will not be decided upon before the completion of the drawings. The appropriation in the Six Million Loan, including purchase of lot, was $1,750,000; to this an additional million is provided for in the Four Million Loan. This amount will give Baltimore a court-house which, in beauty of design and proper accommodations for the courts, will be equal to that of any other city. It will be necessary for the City Council to enable the Commission to provide suitable accommodations for the courts and offices connected therewith during the erection of the new building. The use of the old United States Court-house has been granted by the Government for five years for this purpose. Provision must be made for some necessary repairs to this building. Additional accommodations will also be required, which the Mayor and City Council will be asked to provide for. This matter is fully set forth in the report of the Commission, and an

ordinance will be submitted to your honorable body in that connection.

REFORMATORY INSTITUTIONS.

The usual appropriation for these useful institutions is recommended. The reports of the House of Refuge, St. Mary's Industrial School for Boys, the House of Reformation for Colored Boys, Industrial School for Colored Girls, and Female House of Refuge, all indicate efficient and economical management. The city is represented in the board of management of each.

The House of Reformation for Colored Boys is doing a good work. It has 275 inmates, 46 of whom are from Baltimore City. It is the only place to which boys of this class can be sent who are uncontrollable by their parents or who have committed some petty offence against the law. Its president and founder, Mr. Enoch Pratt, has always taken great interest in its management and successful operation. Mr. Pratt, in the report, says:

"I have again to call to your notice the fact that another family building is required. We have now twenty-five more than the limit of our accommodations, and we are not able to take in large numbers the magistrates desire to commit. Such a building costs about $16,000, and should be paid for jointly by the State and city."

MARYLAND INSTITUTE.

This institute should be regarded as a part of our system of public education. Here over 1,000 pupils are given instruction in artistic, mechanical and architectural drawing. The annual charge is small, and the city has the privilege of sending a certain number of pupils without pay. Its graduates are always in demand in manufacturing, mechanical and artistic callings, and its reputation is second to no technological school in the country. Aided by the State and city, it has returned full value for the appropriations made in this connection. The same appropriation made in 1894 is suggested for 1895.

INSTITUTIONS ENDOWED BY CITIZENS OF BALTIMORE.

We have had many citizens whose names should be gratefully recollected for their public liberality. The Johns Hopkins University and Hospital, the Peabody Library, the Ready Asylum, the Wilson Sanitarium, the McDonough Institute, the Enoch Pratt Free Library and the Sheppard Asylum should be classed among our monuments and their founders ever held in grateful remembrance. Although none of them are aided in any way by the city treasury, or connected with the municipal government, their annual reports are generally sent to this office. The Enoch Pratt Free Library has put into circulation 4,000,000 books and has now nearly 150,000 volumes accessible to the people. Its founder expended more than $1,000,000 on the ground, building

and endowment. Mr. Pratt is still living, in excellent health and business activity, at an advanced age, one of our most honored and respected citizens.

The Johns Hopkins Hospital and University are known throughout the world as great institutions of learning and philanthropy. No city can boast of a finer library of reference than the Peabody, and the Sheppard Asylum, whose report was received a few days since, has, under its most excellent management at the close of its third year, already attained a wide reputation for successful treatment of mental diseases. Whatever facilities can be extended to any of these institutions should be always freely granted by the Mayor and City Council.

INSPECTOR OF GAS AND ILLUMINATING OILS.

The report of this officer is submitted. His duty is to inspect all oil sold for illuminating purposes, and also from time to time the gas furnished by the Consolidated Gas Company. Of the nineteen accidents from oil lamps during the year, there was but one causing death, and in every case the accident was due to carelessness, either in handling the lamp or its falling from insecure fastenings. The report states that the illuminating gas has shown an average of 27.16 photometric candles, or seven and sixteen hundredths above requirement, and is of standard purity.

MOUNT ROYAL AVENUE AND McCULLOH STREET.

Some provision should be made for paving with improved pavement the newly-opened part of McCulloh street, between Biddle and Eutaw; I suggest in this case the Mosaic pavement; and also for paving Mount Royal avenue, between North and Cathedral, and from the north side of Cathedral to North avenue. It would be a great improvement to lower the grade of the hill on this avenue north of Dolphin street.

CONCLUSION.

This Message is longer than I had anticipated. I offer as my apology the importance of the matters therein treated.

I am, very respectfully,

Your obedient servant,

FERDINAND C. LATROBE,

Mayor.

ANNUAL REPORTS

— OF THE —

Register of the City

— AND OF THE —

COMMISSIONERS OF FINANCE

— TO THE —

Members of the First and Second Branches

— OF THE —

CITY COUNCIL OF BALTIMORE,

— FOR THE —

FISCAL YEAR ENDING DECEMBER 31, 1894.

REPORT

— OF —

JOHN A. ROBB,

REGISTER OF THE CITY.

REGISTER'S REPORT.

OFFICE OF THE REGISTER OF THE CITY,

BALTIMORE, January 2, 1895.

To the Honorable the Members of the
First and Second Branches of the City Council:

GENTLEMEN:

Your Register presents his "account of all moneys received and expended by him during the past year;" a "statement of the estimated receipts and payments required for the coming year;" also tables showing the funded and guaranteed debt of the city as of December 31, 1894, the productive and interest bearing securities of the city, the unproductive securities, and the monthly returns of the "Keepers of the Standards of Weights and Measures"—the latter required by Ordinance No 9, of 1881.

The receipts into the Treasury of the city from all sources during the fiscal year ending December 31, 1894, as exhibited in Tables D and E, and also the balance sheets of the ledger were.....	$12,914,068 98
To which add cash balance, December 31, 1893.....	572,381 54
Total amount of cash to be accounted for.	$13,486,450 52
The total disbursements as detailed in Table D were.....	13,217,503 86
Leaving a balance December 31, 1894, of	$268,946 66

The following usual statement of the actual receipts and expenses of the City Government, compiled from Table D, separates the income and expenses from those items which are merely receipts and disbursements :

RECEIPTS—INCOME FROM TAXES, INVESTMENTS ETC.

From	City Collector, levy of 1894	$3,702,486 01	
"	City Collector, levies of previous years	1,381,981 23	
"	City Collector, interest on arrears of taxes	34,951 10	
			$5,119,418 34
"	Jail, fines and removal cases		15,169 51
"	Bay View, Mount Hope and Maryland Hospital		2,922 12
"	Ice-boats		1,713 94
"	Health, Fire Department and Street-cleaning Department		6,561 20
"	Inspector of Buildings		11,032 00
"	City Commissioner		13,042 85
"	General Superintendent of Lamps, etc		2,932 75
"	market-houses and halls		52,060 85
"	wharfage and rents of wharves		27,489 96
"	interest on deposits and other sources		2,195 25
Amount carried forward			$5,254,538 77

Amount brought forward	$5,254,538 77
From general licences	64,672 14
" liquor licences	403,985 78
" auction duties	8,368 72
" telephone conduits	4,635 80
" rent of city property	549 16
" sale of old material	5,942 76
" Public School tuition fees and J. F. Plummer	4,171 95
" aggregate of sundry items	879 77
	$5,747,744 85

RECEIPTS—NOT INCOME.

From State of Maryland, for Public Schools	$214,726 14
" City Passenger Railways, for Park Board	225,804 35
" Park Board, for squares	38,491 31
" Water Board, for interest on Water loans	445,086 68
" Park Board, for interest on Park loans	8,000 00
" Commissioners of Finance, interest on Western Maryland Railroad loans	80,820 00
" Western Maryland Railroad Company, interest on Western Maryland Railroad loans	124,110 00
Amount carried forward	$6,884,783 33

Amount brought forward		$6,884,783 33
From unclaimed damages for opening streets		591 66
" tax sales		3,247 77
" Water Board		754,005 87
" temporary loans		3,975,651 00
" tax on city loans, collected for State of Maryland		7,947 25
" Ryan and McDonald, damage to City College		22,500 00
" condemnation of land for park purposes		40,816 12
" sales of old material for opening streets		13,749 88
" purchase of land for Court House on Fayette street		132,000 00
" sales of Public Improvement 1940 Loan		991,075 72
" City Collector for opening and closing streets		82,477 24
" City Collector for paving streets		5,223 14
Total receipts		$12,914,068 98

DISBURSEMENTS—Expenses of City Government.

Interest on Stock debt	$	745,032 46
Expenses of the Law Courts		126,518 28
City Jail		54,110 31
Amount carried forward		$925,661 05

Amount brought forward	$ 925,661	05
Registration	38,639	94
Magistrates' salaries	16,441	02
Judgements, suits, removed cases and Coroners	15,105	50
Public Schools, total	995,528	35
City poor	337,180	96
Harbor Commission	80,746	46
Police Department	805,550	00
Street Cleaning Department	299,687	24
Health Department	106,215	59
Fire Department	352,386	84
Inspector of Buildings	131,899	91
City Commissioner's Department	172,188	76
General Superintendent of Lamps	281,703	22
City Council, expenses of	58,202	50
General expenses, City and Circuit Courts	5,899	22
General care of Court House	5,301	50
Expenses of Market Houses and Halls	4,813	35
Wharfage commissions of Harbor Masters	7,204	37
Salaries	77,704	56
City Library	6,954	28
Public printing, advertising, etc	4,401	20
Discount on taxes and temporary loans	172,426	43
Superintendent of the City Hall	16,786	94
Mayoralty	2,429	34
Lamplighters' salaries	47,930	03
Special appropriation	4,201	92
Amount carried forward	$4,973,190	48

Amount brought forward	$4,973,190 48
City property, ground rents, etc	43,185 02
Transportation to House of Correction	257 10
Appeal Tax Court	1,191 98
City Collector, salaries and expenses	58,929 27
Commissioners for opening streets	1,098 05
Elections	15,821 50
Dog Pound	1,263 80
Supervisors of Election	11,982 11
Liquor License Commission	14,728 51
Maryland Institute	9,000 00
Permanent Water Supply	3,397 60
Drinking fountains and fire plugs	3,110 00
Refunded taxes	3,652 00
Sprinkling Mt. Royal avenue and Calvert street	900 00
Fourth Regiment, I. M. N. G	3,000 00
Assistance to Examiner of Titles	866 50
State tax on city loans	35,763 50
Western Maryland Railroad Investigation.	1,360 00
Maryland Society Sons of the Revolution.	2,500 00
Street Paving Commision	3,289 33
Indexing Record of Circuit Court No. 2	1,000 00
Sewerage Commission	2,572 92
Hose for markets, and W. H. War	888 00
Veteran Firemen's Association	1,000 00
Purchase of lot for Male and Female-Primary School	9,500 00
Amount carried forward	$5,203,447 67

Amount brought forward	$5,203,447 67
Car Fender Commission	1,183 44
Chesapeake and Delaware Ship Canal	600 70
Expenses of Twenty-first and Twenty-second Wards	302,172 51
General licenses	828 12
Aggregate of small items	1,708 85
	$5,509,941 29

DISBURSEMENTS—Not Expenses

Park Board	$263,632 49
Commissioners of Finance, interest on Western Maryland Railroad Company.	114,591 68
Park Board, interest on Park Loans	8,000 00
Western Maryland Railroad Company, interest on loans	124,110 00
Water Board, interest on loans	411,315 00
Unclaimed damages for opening streets	603 54
Tax sales	4,405 88
Water Board	739,398 25
Temporary Loans	3,491,943 33
General Sinking Fund	144,731 28
Water 1926 Sinking Fund	28,959 29
Internal Improvement Sinking Fund 1928	86,850 88
Public Improvement 1940 Sinking Fund.	40,884 47
Amount carried forward	$10,969,367 38

Amount brought forward	$10,969,367	38
Tax on City Loans, collected and paid to State	7,947	25
Condemnation of land for park purposes.	40,816	12
Opening and closing streets	261,631	57
Commissioners of finance, premium on 1940 loan	18,114	47
Expended by City Commissioner and others, and charged to 1940 loan	1,743,312	35
Expended by City Commissioner and others, and charged to 1928 loan	176,314	72
Total Disbursements	$13,217,503	86

ESTIMATES FOR THE CURRENT YEAR.

Table B will exhibit in detail the estimated requirements of the current year for the twenty wards of the city, amounting to	$6,660,208	57
And for the Twenty-first and Twenty-second Wards	291,996	86
Total	$6,952,205	43
From this amount deduct the estimated receipts from taxes in arrear and other sources of revenue as detailed in statement C	2,123,382	50
And the amount to be levied for will be	$4,828,822	93
The net estimates for the year 1894 were.	4,590,451	51
Increase	$238,371	42

Taxes received by the City Collector for the Twenty-first and Twenty-second Wards for the year 1894 amounted to. $ 179,401 07

FUNDED AND GUARANTEED DEBT.

The funded and guaranteed debt of the city, as of December 31, 1894, was $31,126,625.57; and December 31, 1893, $34,100,475,56, a decrease in the debt funded and guaranteeed of $2, 973,849.99, and is thus explained:

The redemption of the water 1894 stock was commenced July 1, 1894, and the amount redeemed to December 31, 1894, was	$3,923,800	00
The amount of Consolidated 1890 redeemed this year was	1,433	33
The amount of Five Million 1890 redeemed this year was	2,716	66
The amount of Consolidated 1893 stock, redeemed this year	$ 4,700	00
The amount of exempt 1893 stock redeemed this year	14,100	00
	$3,946,749	99
Deduct the issue during the year 1894 of Public Improvement 1940, 3½, amounting to	972,900	00
And the balance will show the net decrease of date as stated	$2,973,849	99

I respectfully refer you to the report of the Commissioners of Finance for the condition of the various sinking funds under their charge and belonging to the city, and also to the accompanying tables.

Table A is a statement of the public debt of the city.

Table B is an estimate of requirements for the current fiscal year.

Table C is an estimate of receipts for the current fiscal year.

Table D is a detailed statement of the receipts and disbursements, and showing the appropriations for the various accounts.

Table E shows the aggregate monthly receipts and disbursements.

Table F shows the monthly returns from the "Keepers of the Standards of Weights and Measures."

Respectfully submitted,

JOHN A. ROBB,

Register of the City.

STATEMENTS.

STATEMENT A.

Statement of Funded Debt, December 31st, 1894.

Name of Loan.	Rate.	When Redeemable.	Amount.
Water	5 per ct.	At pleasure after July 1, 1916.	$5,000,000 00
"	4 "	" " Nov. 1, 1922.	500,000 00
"	4 "	" " Nov. 1, 1926.	1,000,000 00
Funding	6 "	" " July 1, 1900.	800,000 00
"	5 "	" " July 1, 1916.	1,000,000 00
Harford Run	4 "	" " Jan. 1, 1920.	250,000 00
Paving	4 "	" " Nov. 1, 1920.	500,000 00
Consolidated	3½ "	" " July 1, 1930.	5,000,000 00
Park Improvem'nt.	6 "	January 1, 1895	185,723 80
Jones' Falls	6 "	April 9, 1900	800,000 00
"	5 "	" 9, 1900	957,000 00
"	3.65 "	" 9, 1900	483,000 00
"	3½ "	" 9, 1900	160,000 00
"	3 "	" 9, 1900	100,000 00
City Hall	6 "	March 15, 1900	1,000,000 00
"	6 "	" 7, 1902	500,000 00
W. Md. R. R.	6 "	January 1, 1902	1,000,000 00
"	4 "	July 1, 1925	684,000 00
"	3¼ "	January 1, 1927	1,704,000 00
Internal Improv't.	3½ "	July 1, 1928	4,850,000 00
Public Improv't	3½ "	January 1, 1940	2,732,400 00
Harford Run	4 "	November 3, 1904	350,000 00
Patterson Park	4 "	October 1, 1920	200,000 00
McDonogh Ext	5 "	September 1, 1916	280,000 00
Overdue Stock	6 "	No interest allowed	482 00
Water, 1875	6 "	" "	540 00
One Million, 1886	6 "	" "	630 50
Consolidated, 1890	6 "	" "	15,262 48
Five Million, 1890	6 "	" "	2,086 79
Consolidated, 1893	6 "	" "	300 00
Exempt, 1893	6 "	" "	3,000 00
Water, 1894	5 "	" "	76,200 00
			$30,134,625 57

Guaranteed Debt.

W. Md. R. R. 6 per cent. 3d Mortgage bonds	$875,000 00	
Union R. R. 6 per cent. 1st Mortgage bonds	117,000 00	
		$992,000 00
Total funded and guaranteed debt		$31,126,625 57

Amount brought forward		$31,126.625 57
From which deduct—		
Water Loans of 1916, 1922 and 1926, the interest on which is paid by revenue from water rents	$ 6,500,000 00	
Patterson Park Extension Loan, on which interest is paid by Park Board	200,000 00	
Union Railroad Company on	117,000 00	
Commissioners of Finance on Western Maryland Railroad 6 per cent. 1902 Loan	1,000,000 00	
Commissioners of Finance on Western Maryland Railroad 6 per cent. 3d Mortgage Bonds	875,000 00	
Western Maryland Railroad Company on Western Maryland Railroad 3½ per cent. 1927 Loan	1,704,000 00	
Western Maryland Railroad Company on Western Maryland Railroad 4 per cent. 1925 Loan	684,000 00	
Overdue stock, no interest allowed	98,501 77	
		$11,178,501 77
Leaving the amount on which interest is paid by taxation at		$19,948,123 80

Viz:	$ 3,285,723 80	interest at	6 per cent.
	2,237,000 00	" "	5 "
	1,100,000 00	" "	4 "
	12,742,400 00	" "	$3\frac{1}{2}$ "
	483,000 00	" "	$3\frac{65}{100}$ "
	100,000 00	" "	3 "
	$19,948,123 80		

ASSETS OF THE CITY.

Productive.

Mortgage on Union Railroad Company	$ 117,000 00	
Mortgages on Western Maryland Railroad Company	2,388,000 00	
550 shares Baltimore and Reisterstown Turnpike Stock	2,062 50	
137 shares Baltimore and Frederick Turnpike Stock	456 66	
625 shares Baltimore and York Turnpike Stock	5,000 00	
Real estate, annual rental	$10,225 21	
Wharf property, annual rental	38,000 00	
Market houses, annual rental	50,000 00	
	$98,225 11	
Capitalized at 6 per cent	1,637,085 16	
Value of sinking funds	2,583,641 33	
		$ 6,733,245 65

Unproductive.

Accrued interest to January 1, 1887, on Western Maryland Railroad 2d Mortgage Guaranteed Bonds		$ 333,000 00	
Interest on Western Maryland Railroad 1925 Loan from July 1, 1891		68,400 00	
Interest on Western Maryland Railroad 1927 Loan from July 1, 1891		138,450 00	
Third Mortgage on Western Maryland Railroad Company	$ 875,000 00		
Accrued interest to date	1,260,000 00		
		2,135,000 00	
Fourth Mortgage on Western Maryland Railroad Company	$1,000,000 00		
Accrued interest to date	1,350,000 00		
		2,350,000 00	
10,000 shares Valley Railroad of Virginia Stock		1,000,000 00	
83,000 Philadelphia and Reading Railroad 3d Mortgage Preference Income Bonds		83,000 00	
4,000 shares Western Maryland Railroad Stock		200,000 00	
135 shares Baltimore and Havre de Grace Turnpike Stock			
Besides other property, such as—			
Court Houses, Record Office, City Hall, Jail, Police Stations, Fire Engine Houses and apparatus, School Houses, Almshouse, Iceboats, Quarantine Station, Public Parks, Squares, etc., valued at		10,000,000 00	
			$16,307,850 00

STATEMENT B.

The following statement exhibits the present liabilities and the estimated expenses of the city to be provided for in the levy for the year 1895.

EXISTING CLAIMS.

Balance due Harford Run improvement account		$ 17,478 06	
Paving certificates outstanding		51,182 39	
Balance due Park Board		3,490 70	
Balance due internal improvement 1928 Loan	$ 170,386 17		
Less paving certificates outstanding aginst loan	21,681 35		
		$148,704 82	
Loans from Banks		1,700,000 00	
			1,920,855 97
Cash balance Dec. 31, 1894		$268,946 66	
Amount due by Water Board		49,269 08	
Amts. carried forward		$318,215 74	$1,920,855 97

Amts. brought forward...		$318,215 74	$1,920,855 97
Amount due by public improvement 1940 loan.....	226,536 85		
Amount of paving certificates outstanding against loan	28,669 97		
		255,206 82	
Amount due for liquor licenses for 1894.....		6,543,28	
Amount due from Belt R. R. Co. for rent of Bolton Property		9,916 66	
Amount due from Charles Duffy, etc., for rent of Imperial Hotel		9,750 00	
			599,632 50
Amount carried forward.....			$1,321,223 47

Amount brought forward.....		$1,321,223 47
Taxes due and uncollected for 1894 and previous years.....	$1,612,683 42	
Taxes due in 21st and 22d Wards and uncollected for 1894 and previous years.....	61,199 39	

Estimated Requirements for the Fiscal Year Ending December 31, 1895.

DEPARTMENT INSPECTOR OF BUILDINGS.

For The Repairs of City Property.

Engines Houses.....	$ 16,000 00	
City Jail.....	3,000 00	
City Hall.....	4,000 00	
Market Houses.....	6,000 00	
Court Houses.....	1,000 00	
Dog Pound and other property.....	1,000 00	
		$ 31,000 00
Amount carried forward.....		$1,352,223 47

Amount brought forward.....		$1,352,223 47

FOR REPAIRS OF PUBLIC SCHOOLS.

General Repairs.....$	15,000 00	
Painting school houses.....	6,000 00	
Partitions and storm-doors...	1,000 00	
Substituting wood and iron for plastered ceilings.....	3,000 00	
		25,000 00
For sanitary and other improvements.....	$4,000 00	
" emptying cess-pools....	1,000 00	
" incidentals.....	200 00	
" livery of two horses and repairs to wagons....	600 00	
" salaries.	5,500 00	
" extra out-door help.....	6,200 00	
" rental of auxillary fire-alarm boxes	4,200 00	
" winding clocks at engine houses.....	200 00	
" building Hook and Ladder House No. 10....	4,940 00	
" building English-German School House No. 6, additional	6,000 00	
" fitting up and furnishing Judge Dobler's office.	325 00	
Amts. carried forward....	$33,165 00	$1,377,223 47

Amts. brought forward...	$33,165 00	$1,377,223 47
For building Primary School No. 35.....	25,000 00	
" building Western Female High School...	30,000 00	
		88,165 00
DEPARTMENT GENERAL SUPERINTENDENT OF LAMPS.		
Gas, new posts and new globes.....	$148,085 00	
Electric lights and expenses.	141,312 50	
Gasoline and expenses	6,749 00	
		296,146 50
DEPARTMENT OF POLICE.		
Salaries of the commissioners, secretary, marshals, etc...	$18,200 00	
Salaries of the captains, lieutenants and men.....	772,200 00	
Miscellaneous operating expenses.....	25,000 00	
		815,400 00
DEPARTMENT OF STREET CLEANING.		
148 garbage carts and men, at $18 per week.....	$138,528 00	
72 street carts and men, at $18 per week.....	67,392 00	
159 sweepers and scrapers, at $10 per week.....	82,680 00	
Amts. carried forward.....	$288,600 00	$2,576,934 97

Amts. brought forward...	$288,600 00	$2,576,934 97
Salaries	9,000 00	
Dumps.	5,100 00	
Tools, sweeping machines, sprinklers, horses, harness, stable rent, brushes, etc	13,000 00	
Contracts for removal of garbage	9,400 00	
		325,100 00
DEPARTMENT OF PUBLIC SCHOOLS.		
Salaries of teachers and expenses of school.	1,008,000 00	
Polytechnic Institute.....	33,490 00	
Colored Manual Training School.....	8,400 00	
Baltimore City College, Ordinance No. 123 of 1894..	22,000 00	
		1,071,890 00
FIRE DEPARTMENT.		
Salaries.....	243,800 00	
Apparatus.....	6,000 00	
Apparatus repairs.....	9,000 00	
Accidents.....	1,500 00	
Feed.....	15,000 00	
Fuel.....	4,000 00	
Furniture.....	3,000 00	
Harness.....	1,000 00	
Amts. carried forward....	$283,300 00	$3,973,924 97

Amts. brought forward...	$283,300	00	$3,973,924	97
Horseshoeing.....	3,000	00		
Hose and suction tubes.....	9,000	00		
Horses.....	8,000	00		
Gas.....	1,800	00		
Oils and paints.....	2,500	00		
Office expenses, printing and Messenger salary.....	1,000	00		
Rent.....	600	00		
Rent of telephones.....	805	06		
Miscellaneous.....	2,000	00		
Washing.....	2,200	00		
Insurance of members.....	1,769	56		
Sick.....	1,000	00		
Salaries for ex-members...	6,300	00		
Police and Fire Alarm Telegraph.....	22,058	63		
			$345,333	25

HARBOR BOARD.

For dredging and surveys of Harbor, including Middle Branch, Back Basin, Docks and Channels.....	$ 50,000	00		
For dredging Jones' Falls...	15,000	00		
For operation and repairs of Ice-boats.....	25,000	00		
For general repairs of wharves.....	3,000	00		
Amts. carried forward....	$93,000	00	$4,319,258	22

Amts. brought forward...	$93,000 00	$4,319,258 22
For building new stone bulkheads in City Dock..	6,000 00	
For removal of ashes from tow-boats.....	1,500 00	
		$ 100,500 00

INTEREST ON STOCK DEBT.

One year's interest on water 5 per cent. stock, 1916 ...	$250,000 00	
One year's interest on water 4 per cent. stock, 1922...	20,000 00	
One year's interest on water 4 per cent. stock, 1926.....	40,000 00	
One year's interest on funding 6 per cent. stock, 1900	48,000 00	
One year's interest on funding 5 per cent. stock, 1916	50,000 00	
One year's interest on Harford run 4 per cent. stock, 1920.....	10,000 00	
One year's interest on paving 4 per cent. stock, 1920	20,000 00	
One year's interest on Consolidated 3½ per cent. stock, 1930.....	175,000 00	
One year's interest on Jones' Falls 6 per cent. stock, 1900	48,000 00	
Amts. carried forward....	$661,000 00	$4,419,758 22

Amts. brought forward...	$661,000 00	$4,419,758 22
One year's interest on Jones' Falls 5 per cent. stock, 1900	47,850 00	
One year's interest on Jones' Falls $3\frac{65}{100}$ per cent. stock, 1900.....	17,629 50	
One year's interest on Jones' Falls $3\frac{1}{2}$ per cent. stock, 1900.....	5,600 00	
One year's interest on Jones' Falls 3 per cent. stock, 1900.	3,000 00	
One year's interest on City Hall 6 per cent. stock, 1900	60,000 00	
One year's interest on City Hall 6 per cent. stock, 1902	30,000 00	
One year's interest on Western Maryland Railroad 6 per cent. stock, 1902.....	60,000 00	
One year's interest on Western Maryland Railroad 4 per cent. stock, 1925..... ...	27,360 00	
One year's interest on Western Maryland Railroad $3\frac{1}{4}$ per cent. stock, 1927.....	55,380 00	
One year's interest on Internal Improvement $3\frac{1}{2}$ per cent. stock, 1928.....	169,750 00	
Amts. carried forward....	$1,137,569 50	$4,419,758 22

Amts. brought forward...		$1,137,569 50	$4,419,758 22
One year's interest on Public Improvement 3½ per cent. stock, 1940.....		113,134 00	
One year's interest on Harford Run 4 per cent. stock, 1904.....		14,000 00	
One year's interest on Patterson park 4 per cent. stock, 1920.....		8,000 00	
One year's interest on McDonogh extension 5 per cent. stock, 1916.....		14,000 00	
One year's interest on Western Maryland Railroad Third Mortgage Bonds....		52,500 00	
		$1,339,203 50	
Interest paid by Commissioners of Finance	$112,500 00		
Interest paid by Water Board	310,000 00		
Interest paid by Western Maryland R. R. Company.	82,740 00		
Interest paid by Park Board.....	8,000 00		
		513,240 60	
			825,963 50
Amount carried forward.....			$5,245,721 72

Amount brought forward.....		$5,245,721 72
OPENING AND CLOSING STREETS AND ALLEYS.		
Patapsco alley, from Fort avenue to Ostend street, balance.....	$ 715 14	
Race street, from Cross street to Fort avenue, balance..	946 60	
Burke street, from Baltimore street to Monument street, balance.....	231 00	
Patapsco alley, from Ostend street to West street, balance.....	269 75	
Cooksie street, from Clement street to Cuba street, balance.....	75 00	
Henry street, from Randall street to Fort avenue, balance.....	183 00	
Ward street, from Bayard street to Stockholm street, balance.....	7 40	
Randall street, from Covington street to Webster street, balance.....	218 33	
Webster street, from Randall street to Fort avenue, balance.....	672 13	
Amts. carried forward....	$3,318 35	$ $5,245,721 72

Amts. brought forward...	$3,318 35	$5,245,721 72
Clement street, from Hanover street to Race street, balance	816 66	
Etting street, from Baker street to North avenue, balance	171 34	
Collington avenue, from Monument street to Biddle street, balance	2,613 50	
Bouldin alley, from Bloom street to Baker street.....	6,048 11	
Bruce alley, from Baker street to North avenue...	191 76	
Northwest street, from Calhoun street to Fulton avenue.....	1,756 48	
Madison street, from Washington street to Patterson Park avenue.....	6,154 54	
Court-house lane, from St. Paul street to Calvert street.....	306 48	
		$21,377 22

DEPARTMENT OF HEALTH.

Salaries.....	$44,800 00	
General health	20,000 00	
Amts. carried forward....	$64,800 00	$5,267,098 94

Amts. brought forward...	$ 64,809 00	$5,267,098 94
Nuisances and sewers.....	16,000 00	
Post mortems.....	1,500 00	
Quarantine Hospital.....	20,000 00	
Removing filth from docks.	5,000 00	
Removal of canning and packing-house refuse.....	5,000 00	
		$112,300 00
CERTAIN EXPENSES.		
Criminal Court.....	$ 65,000 00	
Baltimore City Court.....	13,000 00	
Court of Common Pleas....	14,000 00	
Superior Court.....	15,000 00	
Circuit Court.....	4,500 00	
Circuit Court No. 2.....	3,000 00	
Orphans' Court.....	8,000 00	
Supreme Bench.....	3,580 00	
Coroners.....	6,614 00	
Judgement and suits.....	3,000 00	
Jail.....	55,000 00	
Registration.....	30,000 00	
Magistrates.....	16,000 00	
Removed cases.....	2,000 00	
		$238,694 00
CITY POOR.		
Bay View Asylum and Insane Department.....	$105,000 00	
Amts. carried forward...	$105,000 00	$5,618,092 94

Amts. brought forward...	$105,000 00	$5,618,092 94
Transportation of poor.....	1,000 00	
St. Mary's Industrial School.	20,000 00	
Mount Hope Retreat.....	33,000 00	
Maryland Hospital for the Insane.....	24,000 00	
House of Refuge.....	20,000 00	
House of Reformation.....	12,000 00	
College of Physicians and Surgeons' Hospital.....	16,900 00	
University of Maryland Hospital.....	9,600 00	
St. Vincent's Infant Asylum.	7,000 00	
Nursery and Childs' Hospital.....	4,200 00	
St. Elizabeth's Colored Orphan Asylum.....	3,500 00	
Home of the Friendless....	2,100 00	
Industrial Home for Colored Girls.....	3,000 00	
Female House of Refuge...	4,000 00	
Maryland Homeopathic Free Dispensary Hospital.....	3,380 00	
Hospital of the Good Samaritan.....	2,940 00	
Deaf and Dumb at Frederick.	500 00	
Amts. carried forward...	$272,120 00	$5,618,092 94

Amts. brought forward...	$272,120 00	$5,618,092 94
Shelter for the Aged Colored Poor	1,000 00	
Boys' Home Society	3,000 00	
St. Mary's Home for Colored Boys	500 00	
St. Mary's Female Orphan Asylum	9,800 00	
Baltimore University Hospital	6,760 00	
Maryland General Hospital.	8,855 00	
St. Joseph's House of Industry	2,000 00	
The Simmons' Home	700 00	
St. Joseph's Hospital	5,070 00	
St. Agnes' Hospital	4,630 00	
Manual Training School, House of Refuge	3,000 00	
St. Vincent de Paul's Orphan Asylum	2,000 00	
Manual Labor School	1,500 00	
House of the Good Shepherd for Colored Girls	2,500 00	
Hebrew Hospital Asylum Association	1,500 00	
Southern Homeopathic Free Dispensary	500 00	
Amts. carried forward....	$325,435 00	$5,618,092 94

Amts. brought forward...	$325,435 00	$5,618,092 94
Northeastern Free Dispensary	900 00	
Eastern Free Dispensary	1,800 00	
Baltimore General Free Dispensary	2,000 00	
Baltimore Medical College Free Dispensary	1,500 00	
Maryland Homeopathic Free Dispensary	1,000 00	
College of Physicians and Surgeons' Free Dispensary	1,300 00	
Women and Child's Free Dispensary	500 00	
Baltimore University Free Dispensary	1,200 00	
University of Maryland Free Dispensary	1,000 00	
Baltimore College of Dental Surgery Free Dispensary	500 00	
Southern Free Dispensary	1,200 00	
Baltimore Eye, Ear and Throat Charity Hospital Free Dispensary	500 00	
Evening Dispensary for Working Girls	700 00	
		$ 339,535 00
Amt. carried forward....		$5,957,627 94

Amt. brought forward.....		$5,957,627 94

GENERAL EXPENDITURES.

City Council.....	$ 60,000 00	
Committee of Investigation.	7,500 00	
General expenses.....	2,000 00	
City and Circuit Courts	4,789 00	
Court House and Grounds...	6,269 00	
Salaries.....	77,705 00	
City Library.....	10,765 51	
Public printing.....	2,500 00	
Interest and discount on Taxes.....	90,000 00	
Superintendent of the City Hall.....	17,450 00	
Mayoralty.....	3,000 00	
Lamplighters' salaries.....	47,930 00	
Transportation to House of Correction.....	300 00	
City property, ground rents..	44,506 00	
Appeal Tax Court.....	1,200 00	
City Collector.....	63,900 00	
Commissioners for Opening Streets.....	1,100 00	
Elections.....	18,000 00	
Supervisors of Election.....	14,000 00	
Dog Pound.....	1,500 00	
Amts. carried forward...	$474,414 51	$5,957,627 94

Amts. brought forward...	$474,414 51	$5,957,627 94
Liquor License Commission.	15,000 00	
Inspector of Gas and Oils (livery)..... ...	300 00	
Maryland Institute.....	9,000 00	
Winding clock at Maryland Institute.....	75 00	
General Licenses.....	1,000 00	
Sprinkling Mt. Royal avenue and Calvert street..	900 00	
Assistance to Examiner of Titles.....	1,000 00	
State tax on city loans.....	44,000 00	
Sewerage Commission	1,823 32	
Pension W. H. War.....	485 00	
Rental of room, Clerk of Superior Court.....	450 00	
Veteran Volunteer Fire Association.....	1,000 00	
Free Baths.....	500 00	
		$549,947 83

DEPARTMENT CITY COMMISSIONER.

Repairs of sewers and inlets	$ 10,000 00	
" bridges.....	6,000 00	
" paved streets....	90,000 00	
" unpaved streets..	5,000 00	
Amts. carried forward...	$111,000 00	$6507,575 77

Amts. brought forward...	$111,000 00	$6,507,575 77
Paving and repaving in front of city property.....	2,000 00	
Paving and repaving cross streets.....	10,000 00	
Salaries.....	9,900 00	
Livery.....	660 00	
Incidental.....	200 00	
Light-street Bridge.....	10,000 00	
Flag and stepping stones...	5,000 00	
Deficiency, repairs of bridges.	319 01	
" Block-street draw-bridge.....	1,276 27	
Deficiency, paving in front of city property.....	53 34	
Deficiency, repairs of paved streets.....	684 54	
Deficiency, Light-street bridge.....	877 68	
Deficiency, board-walk, North avenue.....	117 34	
Deficiency, public printing.	34 75	
Deficiency, draw-bridge, city block.....	509 87	
		152,632 80
CITY ANNEX—21st and 22d Wards.		
City Commissioner, repairs of roads, streets and bridges	$30,000 00	
Amts. carried forward....	$30,000 00	$6,660,208 57

Amts. brought forward...	$30,000 00	$6,660,208 57
City Commissioner, salaries and livery.....	2,432 00	
City Commissioner, deficiency repairing streets..	612 18	
Health Department, salaries	3,800 00	
Health Department, nuisance and sewers.....	3,000 00	
Street Cleaning Department, 16 garbage carts and men.	14,976 00	
Street Cleaning Department, 6 street carts and men....	5,616 00	
Street Cleaning Department, 12 sweepers and scrapers.	6,240 00	
Street Cleaning Department, salary of superintendent..	1,000 00	
Street Cleaning Department, tools.....	125 00	
Public schools, salaries of teachers.....	128,500 00	
Public schools, sundries....	32,200 00	
Inspector of Buildings, extra help.....	1,240 00	
Inspector of Buildings, livery and repairs to wagons....	300 00	
Inspector of Buildings, repairs to city property....	8,000 00	
Amts. carried forward....	$238,041 18	$6,660,208 57

Amts. brought forward...	$238,041 18	$6,660,208 57
Department of Lamps, electric light.	1,277 50	
Department of Lamps, gasoline	7,368 00	
FIRE DEPARTMENT.		
Salaries.....	32,700 00	
Apparatus.	100 00	
" repairs.....	1,000 00	
Accident.....	150 00	
Feed.....	3,200 00	
Fuel.	600 00	
Furniture	250 00	
Harness	250 00	
Horseshoeing	550 00	
Hose and suction tubes	300 00	
Horses	2,500 00	
Gas.	300 00	
Oils and paints	600 00	
Rent.	360 00	
Rent of telephone	80 00	
Miscellaneous.	300 00	
Office expenses.....	300 00	
Washing	275 00	
Insurance of members.....	245 18	
Sick	250 00	
Police and Fire Alarm Telegraph	1,000 00	
		291,996 86
		$6,952,205 43

STATEMENT C.

Estimated collection of taxes in arrears during the year for city and annex....	$1,314,252 50
From State of Maryland for Public Schools..	215,000 00
From liquor licenses	404,000 00
From fines, jail and removal cases.....	12,000 00
From Bay View Asylum, Mount Hope Retreat and Maryland Hospital.....	2,000 00
From sale of refuse in cleaning streets...	680 00
From Quarantine Hospital.....	6,000 00
From permits for sheds, signs, etc.....	10,000 00
From General Superintendent of Lamps.	2,500 00
From market houses, halls, etc., net.....	47,000 00
From wharfage,rent of public wharves,net	20,000 00
From general licenses.....	64,000 00
From auction duties.....	8,000 00
From Chesapeake and Potomac Telephone Co.....	4,600 00
From rent of Imperial Hotel.....	9,750 00
From City Commissioner, sale of old material.....	3,600 00
	$2,123,382 50

STATEMENT D.

NAMES OF ACCOUNTS.	FACE OF LEDGER.		Appropriations.	Received from Collector of Taxes	Received from Other Sources.
	DR.	CR.			
Criminal Court	$ 67,010 22	$ 60,000 00	$ 60,000 00		
Baltimore City Court	12,868 20	12,000 00	12,000 00		
Court of Common Pleas	13,790 23	13,000 00	13,000 00		
Superior Court	14,729 38	15,000 00	15,000 00		
Circuit Court	4,238 25	4,500 00	4,500 00		
Circuit Court No. 2	2,945 85	3,100 00	3,100 00		
Orphans' Court	7,856 15	8,000 00	8,000 00		
Supreme Bench	3,080 00	3,035 00	3,035 00		
Judgments and suits	4,841 52	38 55			$ 38 55
Coroners	6,613 25	6,606 25	6,606 25		
Fines	923 50	7,635 42	1,000 00		6,635 42
Jail	54,110 31	61,877 40	55,000 00		6,877 40
Registration	38,639 94	42,000 00	42,000 00		
Magistrates	16,441 02	16,000 00	16,000 00		
Removed cases	2,727 23	1,618 14			1,618 14
Certain expenses		225,303 66		225,303 66	
Schools.					
Public schools	973,825 25	2,145,499 13	1,012,515 00	914,086 04	218,898 09
Lot for primary school, South Baltimore	6,703 10	10,000 00	10,000 00		
Lot for Public School No. 3	5,000 00	10,000 00	10,000 00		
Lot for Polytechnic Institute	10,000 00	10,000 00	10,000 00		
City poor		296,461 67		296,461 67	
Amounts carried forward	$1,246,343 40	$2,951,675 22	$1,281,756 25	$1,435,851 37	$234,067 60

STATEMENT D—Continued.

NAMES OF ACCOUNTS.	FACE OF LEDGER.		Appropriations.	Received from Collector of Taxes	Received from Other Sources.
	DR.	CR.			
Amounts brought forward	$1,246,343 40	$2,951,675 22	$1,281,756 25	$1,435,851 37	$234,067 60
Bay View	104,998 61	106,454 24	105,000 00		1,454 24
Transportation of poor	997 96	1,162 88	1,000 00		162 88
Dispensaries	15,250 00	15,250 00	15,250 00		
St. Mary's Industrial School	20,000 00	20,000 00	20,000 00		
Mount Hope Retreat	33,000 00	33,685 00	33,000 00		685 00
Maryland Hospital for the Insane	24,000 00	24,620 00	24,000 00		620 00
House of Refuge	20,000 00	20,000 00	20,000 00		
House of Reformation	12,000 00	12,000 00	12,000 00		
College of Physicians and Surgeons Hospital	16,900 00	16,900 00	16,900 00		
University of Maryland Hospital	9,301 48	9,700 00	9,700 00		
St. Vincent's Infant Asylum	7,000 00	7,000 00	7,000 00		
Nursery and Child's Hospital	4,200 00	4,200 00	4,200 00		
St. Elizabeth's Colored Orphan Asylum	3,500 00	4,000 00	4,000 00		
Home of the Friendless	2,100 00	2,100 00	2,100 00		
Industrial Home for Colored Girls	3,000 00	3,000 00	3,000 00		
Female House of Refuge	4,000 00	4,000 00	4,000 00		
Maryland Homeopathic Free Dispensary Hospital	2,894 82	3,380 00	3,380 00		
Hospital of the Good Samaritan	2,518 71	2,940 00	2,940 00		
Deaf and Dumb at Frederick	498 00	500 00	500 00		
Shelter for the Aged Colored Poor	666 63	1,000 00	1,000 00		
Boys' Home Society	3,000 00	3,000 00	3,000 00		
St. Mary's Home for Colored Boys	500 00	500 00	500 00		

St. Mary's Female Orphan Asylum	9,800 00	9,800 00	9,800 00		
Baltimore University Hospital	6,627 17	6,760 00	6,760 00		
Maryland General Hospital	8,712 14	8,855 00	8,855 00		
St. Joseph's House of Industry	2,000 00	2,000 00	2,000 00		
The Simmons' Home	700 00	700 00	700 00		
St. Joseph's Hospital	5,070 00	5,070 00	5,070 00		
St. Agnes' Hospital	4,278 78	4,630 00	4,630 00		
Manual Training School, House of Refuge	3,000 00	3,000 00	3,000 00		
St. Vincent de Paul's Orphan Asylum	2,000 00	2,000 00	2,000 00		
Manual Labor School	1,500 00	1,500 00	1,500 00		
House of the Good Shepherd for Colored Girls	1,666 66	2,500 00	2,500 00		
Hebrew Hospital Asylum Association	1,500 00	1,500 00	1,500 00		
Harbor Commission.					
Harbor	34,314 38	35,000 00	35,000 00		
Ice-boats	23,649 66	23,713 94	22,000 00		1,713 94
Repairs of wharves	2,455 29	3,000 00	3,000 00		
Removing wreck from Jones' falls	560 00	560 00	560 00		
" ashes from tow-boats	1,454 86	1,500 00	1,500 00		
Dredging Jones' falls	15,000 00	15,000 00	15,000 00		
Widening mouth of harbor	3,312 27	5,000 00	5,000 00		
Police Department	805,550 00	1,571,190 93	805,550 00	765,640 93	
Street Cleaning Department.					
Cleaning streets	290,187 24	320,067 17	319,388 00		679 17
Removal of garbage	9,500 00	9,500 00	9,500 00		
Health Department.					
Health	18,242 39	19,025 00	19,000 00		25 00
Health, special	2,749 92	2,750 00	2,750 00		
Health, salaries	39,300 00	39,300 00	39,300 00		
Amounts carried forward	$2,829,800 37	$5,340,989 38	$2,900,089 25	$2,201,492 30	$239,407 83

STATEMENT D—Continued.

NAMES OF ACCOUNTS.	FACE OF LEDGER. DR.	FACE OF LEDGER. CR.	Appropriations.	Received from Collector of Taxes	Received from Other Sources.
Amounts brought forward	$2,829,800 37	$5,340,989 38	$2,900,089 25	$2,201,492 30	$239,407 83
Quarantine Hospital	19,889 24	25,614 13	20,000 00		5,614 13
Nuisances	14,926 96	15,000 00	15,000 00		
Removing filth from docks	4,607 08	5,000 00	5,000 00		
Removal of refuse from packing houses	5,000 00	5,000 00	5,000 00		
Post mortems	1,500 00	1,500 00	1,500 00		
Fire Department.					
Salaries and incidentals	349,781 29	350,305 00	350,062 10		242 90
Fire-alarm boxes, various places	1,000 00	1,025 00	1,025 00		
Fire-alarm boxes destroyed by electric light wires	1,605 55	1,605 55	1,605 55		
Inspector of Buildings' Department.					
Salaries and incidentals	6,200 00	6,200 00	6,200 00		
Extra help	5,800 00	5,800 00	5,800 00		
Permits for sheds, signs, etc.	355 76	11,032 00			11,032 00
Building No. 17 Engine House	12,500 00	12,500 00	12,500 00		
Building Disinfecting plant at Quarantine	13,008 02	13,324 35	13,324 35		
Sanitary and other improvements	3,975 90	4,000 00	4,000 00		
Repairs of schools	21,497 65	21,500 00	21,500 00		
Repairs of city property	18,361 75	21,000 00	21,000 00		
Winding clocks at engine houses	200 00	200 00	200 00		
Cleaning Battle Monument	435 00	500 00	500 00		
New roof on City Jail	17,935 83	18,000 00	18,000 00		

Cleaning cess-pools	689 00	1,000 00	1,000 00		
Building No. 10 Hook and Ladder House	8,764 23	12,000 00	12,000 00		
Building No. 19 Engine House	13,294 87	15,000 00	15,000 00		
Building addition to Colored Manual Training School	600 00	600 00	600 00		
Painting buildings at Quarantine	1,495 55	1,500 00	1,500 00		
Rental of auxiliary fire alarm-boxes	4,300 00	4,300 00	4,300 00		
Extension sheds, Lafayette Market	2,486 35	2,500 00	2,500 00		
Building Primary School, South Baltimore		$10,000 00	$10,000 00		
City Commissioner's Department.					
Salaries and incidentals	$10,613 40	10,760 00	10,760 00		
Repairs of paved streets	89,982 50	90,383 19	90,130 21		252 98
" " unpaved streets	4,928 28	5,442 11	5,442 11		
" " bridges	7,316 72	8,946 43	8,937 11		9 32
" " sewers	6,645 18	11,280 55	7,500 00		3,780 55
Improvement of Harford Run	201 14				
Building North-avenue bridge, special	6,174 84	9,000 00			9,000 00
" Ramsay-street bridge, special	1,635 38				
Light-street bridge	7,468 26	7,500 00	7,500 00		
Cross streets, paving and repaving	4,933 52	5,000 00	5,000 00		
Paving in front of city property	793 51	800 00	800 00		
Flag and stepping-stones	3,092 26	3,107 00	3,107 00		
Building Douglas-street bridge	382 09				
Inlets, Druid Hill ave. and Preston st		55 15	55 15		
" various places	114 36	114 36	114 36		
" Carey and Franklin streets	1,049 33	1,050 00	1,050 00		
" Monument st. and Central ave	1,100 00	1,100 00	1,100 00		
" McKim and Eager streets	332 45	350 00	350 00		
" West and Race streets	958 36	1,000 00	1,090 00		
Shelling Canton avenue and Luzerne st		75 00	75 00		
Amounts carried forward	$3,507,731 98	$6,062,959 20	$3,592,127 19	$2,201,492 30	$269,339 71

STATEMENT D—Continued.

NAMES OF ACCOUNTS.	FACE OF LEDGER. DR.	FACE OF LEDGER. CR.	Appropriations.	Received from Collector of Taxes	Received from Other Sources.
Amounts brought forward	$3,507,731 98	$6,062,959 20	$3,592,127 19	$2,201,492 30	$369,339 71
Shelling Leadenhall street	265 36	300 00	300 00		
Close inlet, Light street, near Weber street		25 00	25 00		
Grading East Lanvale street, etc	380 00	500 00	500 00		
" Monroe street	5,584 69	5,700 00	5,700 00		
" McCulloh street	402 50	402 50	402 50		
Paving streets around Northeast Market	1,703 20	1,703 20	1,703 20		
Macadamizing Park Heights avenue	2,993 63	3,000 00	3,000 00		
Iron plates	243 76				
" " various places	63 24	50 00	50 00		
Kerbing Park avenue	91 60				
Repairing Madison street	182 52	182 52	182 52		
" Eutaw place	6,088 25	6,088 25	6,088 25		
" Block-street drawbridge	3,968 69	4,014 63	4,000 00		14 63
Removing iron railings, Prospect square	149 83	166 00	150 00		16 00
Board walk, Marshall avenue	947 27	1,000 00	1,000 00		
Draining property, Light street	200 00	200 00	200 00		
Trapping inlets, Pennsylvania avenue and Pearl street	382 83	500 00	500 00		
Changing gutters at Canton avenue	764 53	800 00	800 00		
Patterson Park extension	55 28				
Park Commission.					
Park Board	224,691 81	225,804 35			225,804 35
Harlem Park	3,999 63	3,996 94			3,996 94

Madison Square	2,799 66	2,663 48			2,663 48
Eastern fountain	1,438 15	1,485 10			1,485 10
Franklin Square	1,499 52	1,500 00			1,500 00
Union Square	1,734 08	1,729 86			1,729 86
Perkins' Spring Square	1,799 90	1,800 00			1,800 00
Park Place Square	895 67	607 85			607 85
Lafayette Square	1,994 66	1,944 99			1,944 99
Jackson Square	1,197 73	1,189 51			1,189 51
Mt. Vernon Square	1,600 00	1,600 00			1,600 00
Broadway Squares, 1st division	1,864 75	1,999 93			1,999 93
Broadway Squares, 2d division	1,799 92	1,799 95			1,799 95
Broadway Squares, 3d division	2,999 97	3,000 00			3,000 00
Eutaw Squares, 1st division	1,800 00	1,800 00			1,800 00
Eutaw Squares, 2d division	1,999 99	2,000 00			2,000 00
Liberty street triangle	185 27	200 00	200 00		
Ashland Square	135 06	129 67			129 67
Wilkens Avenue Square	2,499 62	2,464 07			2,464 07
Fulton Avenue Squares and Baker Circle	3,499 39	3,497 00			3,497 00
Taney Place Square	287 35	298 58			298 58
Mt. Royal Avenue Squares	2,908 96	2,984 38			2,984 38
General Superintendent of Lamps.					
Inspecting Gas Meters		2,472 75			2,472 75
Gas	141,878 27	143,146 94	142,886 94		260 00
Gasoline	6,539 01	6,780 00	6,580 00		200 00
Electric lights	133,285 94	138,987 45	138,987 45		
General Expenditures.					
City Council	58,202 50	60,000 00	60,000 00		
General expense	1,438 54	2,000 00	2,000 00		
City and Circuit Courts	4,460 68	4,769 00	4,769 00		
Court-House	5,301 50	6,319 00	6,319 00		
Amounts carried forward	$4,146,938 09	$6,716,562 10	$3,978,471 05	$2,201,492 30	$536,598 75

STATEMENT D—Continued.

NAMES OF ACCOUNTS.	FACE OF LEDGER.		Appropriations.	Received from Collector of Taxes	Received from Other Sources.
	DR.	CR.			
Amounts brought forward	$4,146,938 09	$6,716,562 10	$3,978,471 05	$2,201,492 30	$536,598 75
Lafayette Market	256 34	2,195 60			2,195 60
Centre Market	663 15	5,952 60			5,952 60
Belair Market	530 80	7,353 95			7,353 95
Fells Point Market	501 50	6,343 25			6,343 25
Lexington Market	666 00	12,632 40			12,632 40
Richmond Market	409 25	1,757 05			1,757 05
Hanover Market	445 96	4,812 25			4,812 25
Cross-street Market	309 25	4,631 60			4,631 60
Hollins Market	340 85	3,540 85			3,540 85
Northeast Market	313 25	1,691 30			1,691 30
Canton Market	174 00	549 00			549 00
Cross Street Hall	32 75	214 00			214 00
Hollins Hall	165 75	367 00			367 00
Broadway Hall	4 50	20 00			20 00
Wharfage	7,184 37	27,389 96			27,389 96
Wharfage, 6th district	20 00	100 00			100 00
Salaries	77,704 56	77,719 56	77,719 56		
City Library	6,954 28	7,435 85	7,321 00		114 85
Public printing	4,401 20	4,506 75	4,428 75		78 00
Interest	172,426 43	219,061 97	75,000 00	141,866 72	2,195 25
Interest on Stock debt	1,403,049 14	2,127,762 10	1,469,745 42		658,016 68
Superintendent of the City Hall	16,786 94	17,450 00	17,450 00		
Mayoralty	2,429 34	2,800 00	2,800 00		
Lamplighters	47,930 03	47,500 00	47,500 00		

Special appropriation	4,201 92	4,201 92	4,201 92		
Transportation to House of Correction	257 10	300 00	300 00		
City property	43,185 02	44,792 00	44,506 00		286 00
Unclaimed damages for opening streets	603 54	591 66			591 66
Appeal Tax Court	1,191 98	1,200 00	1,200 00		
City Collector	58,929 27	59,000 00	59,000 00		
Commissioners for Opening Streets	1,098 05	1,100 00	1,100 00		
Elections	15,821 50	18,000 00	18,000 00		
Dog Pound	1,263 80	1,780 99	1,500 00		280 99
Supervisors of Elections	11,982 11	13,500 00	13,500 00		
Liquor License Commission	14,728 51	16,000 00	16,000 00		
Inspector of Gas and Oils (livery)	296 35	375 00	375 00		
Maryland Institute	9,000 00	9,000 00	9,000 00		
Winding Maryland Institute clock	75 00	75 00	75 00		
Tax sales	4,405 88	3,247 77			3,247 77
Water rent	739,398 25	754,005 87			754,005 87
Permanent water supply	3,397 60				
Drinking fountains, various places	1,685 00	1,760 00	1,760 00		
Fire-plugs, various places	1,425 00	1,425 00	1,425 00		
General licenses	828 12	66,672 14	2,000 00		64,672 14
City seal		6 50			6 50
Liquor licenses		403,985 78			403,985 78
Refunded taxes	3,652 00				
Temporary loans	3,491,943 33	3,975,651 00			3,975,651 00
Auction duties		8,368 72			8,368 72
Sprinkling Mt. Royal avenue and Calvert street	900 00	900 00	900 00		
Direct tax		1,336,936 55		1,336,936 55	
Miscellaneous Stocks		724,584 94		724,584 94	
Opening streets		175,766 03		175,766 03	
Water tax		57,944 80		57,944 80	
General Sinking Fund	144,731 28	144,731 28		144,731 28	
Amounts carried forward	$10,445,638 34	$17,126,252 09	$5,855,278 70	$4,783,322 62	$6,487,650 77

STATEMENT D—Continued.

NAMES OF ACCOUNTS.	FACE OF LEDGER.		Appropriations.	Received from Collector of Taxes	Received from Other Sources.
	DR.	CR.			
Amounts brought forward	$10,445,638 34	$17,126,252 09	$5,855,278 70	$4,783,322 62	$6,487,650 77
Water 1926 Sinking Fund	28,959 29	28,959 29		28,959 29	
Internal Improvement 1928 Sinking Fund	86,850 88	86,850 88		86,850 88	
Public Improvement 1940 Sinking Fund	40,884 47	40,884 47		40,884 47	
Fourth Regiment, I. M. N. G.	3,000 00	3,000 00	3,000 00		
Assistance to Examiner of Titles	866 50	1,000 00	1,000 00		
Telephone conduits		4,635 80			4,635 80
State tax on city loans	43,710 75	47,947 25	40,000 00		7,947 25
Western Maryland Railroad Investigation	1,360 00	1,600 00	1,600 00		
Maryland Society of the Sons of the American Revolution	2,500 00	2,500 00	2,500 00		
Street Paving Commission	3,289 33	3,289 33	3,289 33		
Indexing records, etc., Circuit Court No. 2	1,000 00	1,000 00	1,000 00		
Drainage to Baltimore City College	500 00	22,500 00			22,500 00
Sewerage Commission	2,572 92	4,396 24	4,396 24		
Condemnation of land for Park purposes	40,816 12	40,816 12			40,816 12
Rent of Court House property		220 00			220 00
Turnpike dividends		156 66			156 66
Rent of fence, Fayette street, etc		172 50			172 50
Hose for various markets	403 00	700 00	700 00		
Pension account, W. H. War	485 00	485 00	485 00		
Rental of room, Clerk of Superior Court	337 50	450 00	450 00		
Veteran Volunteer Firemen's Association	1,000 00	1,000 00	1,000 00		
Purchase of lot for Male and Female Primary school	9,500 00	9,500 00	9,500 00		

Car Fender Commission	1,183 44	2,000 00	2,000 00		
Chesapeake and Delaware Ship Canal	600 70	600 70	600 70		
Free Baths	500 00	500 00	500 00		
Opening, Closing and Paving Streets.					
Opening Federal street	27,191 15	30,559 89	17,812 39	9,375 62	3,371 88
" Randall street	6,116 00	6,208 02	2,565 52	3,642 50	
" Webster street	2,932 87	3,593 81	3,064 31	529 50	
" Windsor avenue	187 21				
" Myrtle avenue	30 00				
" Bethel street	12,365 31	11,486 24	8,003 46	3,422 78	60 00
" Ward street	1,404 18	1,162 24	177 45	984 79	
" Cleveland street	86 60				
" Whitelock stroet		552 50		552 50	
" Dorsey's or Kirby's lane	11 40				
" Eutaw street	17 60				
" Etting street	11,588 33	9,206 09	8,270 09	936 00	
" Bouldin alley		2,973 56		2,973 56	
" Ludlow street	160 00				
" and widening St. Paul street	42,618 47	37,096 35	34,238 35	108 00	2,750 00
" Burrow street	50 00				
" Chew street	11,840 18	9,828 83	6,185 84	3,642 99	
" Clement street	8,533 32	8,871 28	6,795 28	2,076 00	
" Chase street	12,264 78	12,383 94	7,711 94	4,672 00	
" Durham street	520 11	520 11		520 11	
" Stockholm street	28,556 90	29,074 75	23,090 00	4,909 75	1,075 00
" Henry street		183 00	183 00		
" Collington avenue	21,592 86	24,663 92	11,436 55	13,227 37	
" Forrest street	43 25				
Opening alley from Gold to Bloom street.	30 25				
" Brice alley	1,987 50	1,987 50	397 50	15 90	
" Port alley	4,654 50	4,748 15	2,251 91	2,496 24	
Amounts carried forward	$10,906,086 51	$17,621,768 36	$6,057,231 65	$4,993,180 73	$6,571,355 98

STATEMENT D—Continued.

NAMES OF ACCOUNTS.	FACE OF LEDGER. DR.	FACE OF LEDGER. CR.	Appropriations.	Received from Collector of Taxes	Received from Other Sources.
Amounts brought forward	$10,906,086 51	$17,621,768 36	$6,057,231 65	$4,993,180 73	$6,571,355 98
Opening Lanvale street	61 25				
" Madison street	104 36	1,583 85		1,583 85	
" Smallwood street	29 95				
" Carroll street	78 90				
" Fairmount avenue	38 05				
" Nanticoke street	79 65				
" Bruce alley	110 50				
" South Fulton avenue	53 15				
" Patapsco alley		984 89	984 89		
" Burke street		231 00	231 00		
" Race street		946 60	946 60		
" Cooksie street		75 00	75 00		
" Northwest street	227 63				
" Fayette street	38 70				
" Covington street	36,863 04	35,499 85	31,688 85	2,950 00	861 00
" Townsend street	17,327 70	16,746 64	9,346 64	7,400 00	
" Canton street	319 25				
" Luzerne street	307 20				
" Neighbor street	11 55				
" Rose street	521 25				
" Alluvion street	159 03				
" Brunt street	164 84				
" Bayard street	235 92				
" Dallas street	286 52				

Opening Castle street	24 64	55 00			55 00
Closing Sumwalt lane	170 90				
" Truxton street	311 70				
" Jew alley	38 78	493 83		493 83	
" Fourth street	155 45	474 15		474 15	
" Milliman street	13 90				
" Court-house lane	130 00				
Paving Gold street	42 76				
" Riggs avenue	104 75				
" Fairmount avenue	4,293 32	3,476 87		3,476 87	
" Preston street	305 00				
" Wolfe street	310 00				
" North avenue	4 80				
" Patterson Park avenue	406 83	1,746 27		1,746 27	
" Patapsco street	50 00				
" Johnson street	30 00				
" Mount street	422 32				
" Townsend street	201 78				
" Hanover street	1,709 43	1,709 43	1,709 43		
" Charles street		3,500 00	3 500 00		
Paving Monroe and Eagle streets		5,700 00	5,700 00		
Widening East and Chesnut streets	1,104 00				
Internal Improvement, 1928 Loan.					
Purchase of lot and building, Colored Primary School No. 1	7,203 00				
Carey-street relief sewer	533 28				
Druid Hill-avenue sewer	64,795 31				
Bush-street sewer	39,085 17				
Penn-street sewer	13,272 33				
Fremont-street sewer	6,704 10				
Presbury-street sewer	2,083 42				
Amounts carried forward	$11,111,266 42	$17,699,739 89	$6,113,665 97	$5,013,801 94	$6,572,271 98

STATEMENT D—Continued.

NAMES OF ACCOUNTS.	FACE OF LEDGER. DR.	FACE OF LEDGER. CR.	Appropriations.	Received from Collector of Taxes	Received from Other Sources.
Amounts brought forward	$11,111,266 42	$17,699,739 89	$6,113,665 97	$5,013,801 94	$6,572,271 98
Pulaski-street sewer	294 67				
Paving streets around Richmond Market	842 74				
Inlets, Fulton avenue and Monroe street	3,942 19				
" Franklin street and Woodyear alley	1,983 35				
Paving Calvert street	2,370 38				
" Lafayette avenue	9,104 94				
" Mulberry street	1,309 87				
" Chase street	1,049 68				
" Broadway	19,725 81				
" Arlington avenue	1,967 18				
Widening Fayette street	47 30	145,750 70		13,750 70	132,000 00
Opening Douglas street		1,400 00			1,400 00
Sale of old material		1,115 07			1,115 07
Public Improvement, 1940 Loan.					
Public Improvement, 1940 Loan	18,114 47	991,075 72			991,075 72
Building Western Female High School	35,226 34				
Purchase of lot and building, English-German School No. 6	7,545 48				
Building North-avenue bridge	206,238 22				
" Ramsay-street bridge	6,227 95				
" Monroe-street bridge	3,462 89				
" Maryland-avenue bridge	14,333 20				
" Edmondson-avenue bridge	12,656 19				

Federal-street sewer	18,134 46				
Bush-street sewer	158,417 25				
Patapsco-street sewer	7,401 94				
Patapsco-street sewer extension	17,770 36				
Charles-street sewer	24,768 02				
Barclay-street sewer	3,736 59				
Orleans-street sewer	3,391 44				
Bruce-alley sewer	22,566 41				
Fort-avenue sewer	14,275 78				
Straightening Eutaw street	5 00				
Fremont-avenue sewer	24,038 51				
Union-avenue sewer	201 49				
Druid Hill-avenue sewer	1,929 53				
Building Columbia-avenue bridge	4,380 75				
New Court House	199,618 11				
Topographical survey	63,555 31	77 80			77 80
Lot for Primary School No. 4	9,000 00				
Underground wires	13,878 90				
Purchase of lot for Baltimore City College	50,015 00				
Purchase of lot and building male and female grammar school	23,971 99				
Building addition to Annex School No. 9	2,889 34				
Opening McCulloh street	12,459 90	4,342 00		165 00	4,177 00
Paving Madison street	12,419 04				
" McCulloh street	24,350 81				
" Pleasant street	2 56				
" Concord street	6,246 74				
" Maryland avenue	40 50				
" Park avenue	3,597 08				
" Davis street	52 00				
" Hanover and Lexington sts., and streets around Richmond Market	5 00				
Amounts carried forward	$12,180,829 08	$18,843,501 18	$6,113,665 97	$5,027,717 64	$7,702,117 57

STATEMENT D—Cotinuned.

NAMES OF ACCOUNTS.	FACE OF LEDGER. DR.	FACE OF LEDGER. CR.	Appropriations.	Received from Collector of Taxes	Received from Other Sources.
Amounts brought forward	$12,180,829 08	$18,843,501 18	$6,113,665 97	$5,027,717 64	$7,702,117 57
Paving Fayette street	33,279 34				
" Pratt street	153,738 78				
" Biddle street	1,943 72				
" Frederick avenue	948 20				
" Franklin street	2,369 52				
" St. Paul street	48,336 11				
" Saratoga street	20 52				
" Gay street	93,536 63				
" Light street	80,836 23				
" Poppleton street	50,906 34				
" East Baltimore street	23 00				
" Aliceanna street	2,617 68				
" Front street	472 30				
" Boston street	88,151 68				
" Eager street	59 18				
" Chase street	395 30				
" Holliday and other streets	130,067 53				
" Lafayette avenue	84 00				
" Fort avenue	46,716 21				
Sale of old material		4,827 69			4,827 96
CITY ANNEX.					
General Superintendent of Lamps.					
Gas	16,640 74	18,000 00	18,000 00		
Gasoline	6,902 51	6,870 00	6,870 00		

Electric lights	484 75	1,277 50	1,277 50		
Lamplighters	13,845 69	13,633 14	13,633 14		
Fire Department.					
Salaries and incidentals	45,515 61	45,705 00	45,700 00		5 00
Fire-plugs at Carroll	250 00	250 00	250 00		
Health Department.					
Health, salaries	3,800 00	3,800 00	3,800 00		
Nuisances	2,743 49	2,900 00	2,900 00		
Inspector of Building's Department.					
Livery, etc	300 00	300 00	300 00		
Extra help	1,240 00	1,240 00	1,240 00		
Repairs of city property	5,674 93	6,000 00	6,000 00		
Smead System, No. 9 Annex School	2,000 00	2,000 00	2,000 00		
" " Walbrook School	2,934 00	2,934 00	2,934 00		
Cleaning streets	24,474 89	26,085 00	26,085 00		
City Collector	3,499 92	3,500 00	3,500 00		
City Commissioner's Department.					
Repairs of streets, roads, etc	22,422 29	22,432 00	23,432 00		
Repairs of bridges, 21st Ward	2,491 25	2,500 00	2,500 00		
Macadamizing Garrison avenue	996 70	1,000 00	1,000 00		
" Franklin street	90 00				
Repairing Ninth street	3,493 98	3,500 00	3,500 00		
Public schools	136,490 77	138,300 00	138,300 00		
Interest	3,284 25	4,768 84		4,768 84	
Direct tax		174,632 24		174,632 24	
Amounts carried over	$13,214,907 12	$19,329,956 59	$6,415,887 61	$5,207,118 72	$7,706,950 26

STATEMENT D—Concluded.

NAMES OF ACCOUNTS.	FACE OF LEDGER.		Appropriations.	Received from Collector of Taxes	Received from Other Sources.
	DR.	CR.			
Amounts brought forward	$13,214,907 12	$19,329,956 59	$6,415,887 61	$5,207,118 72	$7,706,950 26
Refunded taxes	46 96				
Special assessment	1,046 98				
Purchase of lot for engine house, North avenue and Tenth street	1,502 80	2,000 00	2,000 00		
Mayor and City Council	6,417,887 61				
Cash	12,914,068 98	13,217,503 86			
	$32,549,460 45	$32,549,460 45	$6,417,887 61	$5,207,118 72	$7,706,950 26

STATEMENT E.

Receipts and Disbursements from December 31, 1893 to December 31, 1894.

	Receipts.	*Disbursements.*
January	$ 337,439 99	$ 962,403 14
February	1,488,407 36	951,194 11
March	1,048,686 61	838,461 02
April	732,530 31	1,145,621 35
May	573,990 11	1,429,228 36
June	2,585,815 39	1,717,417 31
July	1,163,688 35	1,496,353 59
August	1,035,624 59	1,023,923 76
September	701,868 37	765,369 88
October	1,137,527 70	830,541 41
November	681,479 73	1,058,423 14
December	1,427,010 47	998,566 79
	$12,914,068 98	$13,217,503 86
Balance, December 31, 1893	572,381 54	
Balance, December 31, 1894		268,946 66
	$13,486,450 52	$13,486,450 52

STATEMENT F.

Statement showing the Monthly Returns of the "Keepers of the Standards of Weights and Measures," from March 1, 1894, to December 31, 1894.

1894.	N.W. Dist.	S.W. Dist.	N.E. Dist.	S.E. Dist.	South. Dist	Totals.
March	$305 00	$291 66	$286 40	$275 77	$292 60	$1,451 43
April	310 10	277 14	295 75	270 16	297 33	1,450 48
May	272 51	242 54	300 01	237 61	280 30	1,332 97
June	225 54	203 14	207 90	124 29	207 70	968 57
July	119 56	77 75	126 46	139 49	98 57	561 83
August	175 90	95 44	144 49	120 50	141 90	678 23
September	173 45	28 30	65 76	59 45	107 18	434 14
October	85 82	16 37	40 93	37 60	41 68	222 40
November	62 27	15 25	22 35	18 60	36 40	154 87
December	33 36	8 18	19 36	11 15	19 70	91 75
Totals	$1,763 51	$1,255 77	$1,509 41	$1,294 62	$1,523 36	$7,346 67

COMMUNICATIONS.

OFFICE OF FIRE COMMISSIONERS—CITY HALL,

BALTIMORE, January 5, 1895.

JOHN A. ROBB, ESQ., *City Register:*

DEAR SIR:

The following are the estimates for the City and Annex Fire Departments for the year of 1895:

CITY.

Salaries	$243,800 00
Apparatus	6,000 00
Apparatus repairs	9,000 00
Accident	1,500 00
Feed	15,000 00
Fuel	4,000 00
Furniture	3,000 00
Harness	1,000 00
Horseshoeing	3,000 00
Hose and suction tubes	9,000 00
Horses	8,000 00
Gas	1,800 00
Amount carried forward	$305,100 00

Amount brought forward	$305,100 00
Oils and paints	2,500 00
Office expenses, including printing report and messenger's salary	1,000 00
Rent	600 00
Rent of telephones	805 06
Miscellaneous	2,000 00
Washing	2,200 00
Insurance of members	1,769 56
Sick	1,000 00
Salaries for ex-members	6,300 00
Police and fire-alarm telegraph	22,058 63
Total	$345,333 25

ANNEX.

Salaries	$32,700 00
Apparatus	100 00
Apparatus repairs	1,000 00
Accident	150 00
Feed	3,200 00
Fuel	600 00
Furniture	250 00
Harness	250 00
Horseshoeing	550 00
Hose and suction tubes	300 00
Horses	2,500 00
Gas	300 00
Amount carried forward	$41,900 00

Amount brought forward	$41,900 00
Oils and paints	600 00
Rent	360 00
Rent of Telephones	80 00
Miscellaneous	300 00
Office expenses	300 00
Washing	275 00
Insurance of members	245 18
Sick	250 00
Police and fire-alarm telegraph	1,000 00
Total	$45,310 18

Very respectfully,

J. Alexander Preston,

President.

Office of Commissioner of Street Cleaning,
City Hall,

Baltimore, January 5, 1895.

John A. Robb, Esq., *City Register:*

Dear Sir:

The following is the estimate of expenses for the Department of Street Cleaning for the year 1895:

148 garbage carts and men at $18 per week.	$138,528 00
72 street carts and men at $18 per week...	67,392 00
159 sweepers and scrapers at $10 per week..	82,680 00
Salaries	9,000 00
Dumps	5,000 00
Tools and incidentals, sweeping machines, sprinklers, horses, harness, stable rent, brushes, etc	13,000 00
Contract for removal of garbage	9,400 00
	$325,100 00

CITY ANNEX.

16 garbage carts and men at $18 per week...	$14,976 00
6 street carts and men at $18 per week....	5,616 00
12 sweepers and scrapers at $10 per week...	6,240 00
Salary of Superintendent	2,000 00
Tools	125 00
	$27,957 00

Respectfully submitted,

B. E. Smith,

Commissioner of Street Cleaning.

OFFICE OF THE COMMISSIONERS OF PUBLIC SCHOOLS,

CITY HALL.

BALTIMORE, January 7, 1895.

MR. JOHN A. ROBB, *City Register:*

DEAR SIR:

Following are the estimated amounts required for the maintenance of the public schools during the year 1895:

For the first twenty wards	$1,049,890 00
For the Twenty-first and Twenty-second Wards	160,700 00
Total	$1,210,590 00

The details are as follows:

For salaries, first twenty wards	$825,000 00
For rents, first twenty wards	10,000 00
For books and stationery, first twenty wards	54,000 00
For heating apparatus, first twenty wards.	12,000 00
For furniture, first twenty wards	30,000 00
For fuel, first twenty wards	33,000 00
For repairs and cleaning, first twenty wards	14,000 00
For incidentals, first twenty wards	15,000 00
Amount carried forward	$ 993,000 00

Amount brought forward		$ 993,000 00
For night schools, first twenty wards		15,000 00
For Polytechnic Institute		33,490 00
For Colored Manual Training School		8,400 00
Amount for first twenty wards		$1,049,890 00
Salaries, Annex schools	$128,500 00	
Sundries, Annex schools	32,200 00	
Amount for Annex	$160,700 00	

Attest: HENRY M. COWLES,
Secretary.

ESTIMATED AMOUNT REQUIRED FOR THE YEAR 1894—CITY PROPER.

Gas Account.

5,118 gas lamps burning 4,000 hours each, at 5 ft. per hour, 102,360,000 cubic feet, at $1.25 per 1,000	$127,950 00
One Gordon lamp, at 25 cents per night	91 25
Gas for markets, 3,290,000 cubic feet, at $1.25 per 1,000	4,112 50
Gas for squares, 1,500,000 cubic feet, at $1.25 per 1,000	1,875 00
Gas for Washington Monument, 85,000 cubic feet, at $1.25 per 1,000	106 25
Amount carried forward	$134,135 00

Amount brought forward.....	$134,135 00
200 new gas lamps (say 2,000 hours each), 2,000,000 cubic feet, at $1.25 per 1,000..	2,500 00
Erecting 200 new gas lamps, at $7.50 each.	1,500 00
Putting on new globes, replacing broken ones	1,500 00
Repairs of services, straightening posts...	1,000 00
Repairs to stops, burners, tips, etc.....	1,500 00
Tin, solder, acid and necessary material for repairing the old lanterns and keeping them in repair	300 00
Livery and incidentals.....	400 00
20 dozen new miner lamps, at $3.75 each..	900 00
200 new iron posts, at $6.00 each.....	1,200 00
Repairing gas lamps.....	1,500 00
Street signs and frames, and putting same in position.....	1,200 00
Repairs to gas pipe in markets and city buildings, and repairs to wagon and harness	250 00
Meters, seals, extra help in office and advertising.....	200 00
	$148,085 00

ESTIMATED AMOUNT REQUIRED FOR THE YEAR 1895—CITY PROPER.

Electric Light Account.

1,036 electric arc lights, at 35 cents each per night	$132,349 00
100 additional electric arc lights, at 35 cents each per night, six months	6,387 50
Incandescent lamps, 16	192 00
4 inspectors, at $50.00 per month	2,400 00
Repairs to instruments and calibrating same	200 00
	$141,528 50

Gasoline Account.

484 gasoline lamps (necessary gasoline and filling), $11.00 each	$5,324 00
50 additional gasoline lamps (necessary gasoline and filling), six months	275 00
Glass for reglazing; also repairs to burners.	600 00
Tin, solder, acid and necessary materials for repairing and keeping in repair the old lanterns	400 00
Erecting and straightening posts, and also advertising, etc.	150 00
	$6,749 00

ESTIMATED AMOUNT REQUIRED FOR THE YEAR 1895—ANNEX.

Electric Light Account.

Electric arc lamps, 10, at 25 cents each...	$1,277 50

ANNEX.

Gasoline Account.

Gasoline and filling 563 lamps, at $11.00 each per annum.....	$6,193 00
Painting and repairing.....	500 00
Glass for lanterns (replacing that broken).	100 00
Gasoline for 50 additional lamps, six months.....	275 00
New gasoline posts, erecting and straightening, etc	100 00
Repairs to gasoline burners and valves....	50 00
New gasoline burners, valves, wick, etc...	150 00
	$7,368 00

ESTIMATED AMOUNT REQUIRED FOR THE YEAR 1895—ANNEX.

Gas Account.

676 gas lamps, burning 4,000 hours each, 13,520,000 cubic feet, at $1.25 per 1,000.	$16,900 00
50 New gas lamps, average consumption six months, say 500,000 cubic feet, at $1.25 per 1,000.....	625 00
Amount carried forward.....	$17,525 00

Amount brought forward	$17,525 00
Erecting 50 new posts, at $7.50 each	375 00
Repairs to services, straightening posts, etc	225 00
Repairing and painting lanterns	150 00
6 dozen new miner lamps, at $3.75 each	270 00
50 new iron posts, at $6.00 each	300 00
Glass for lanterns (replacing that broken)	90 00
Repairs to burners and stops	50 00
Signs, frames and putting in position, etc.	100 00
New burners, tips, etc	50 00
Livery	300 00
	$19,435 00

Showing the amounts required for the City Commissioners Department, for the year ending December 31, 1895.

Repairs of sewers and inlets	$10,000 00
Repairs of bridges	6,000 00
Repairs of paved streets	90,000 00
Repairs of unpaved streets	5,000 00
Paving and repaving in front of city property	2,000 00
Paving and repaving cross streets	10,000 00
Salaries	9,900 00
Livery	660 00
Amount carried forward	$133,560 00

Amount brought forward	$133,560 00
Incidentals	200 00
Light-street bridge	10,000 00
Flag and stepping-stones	5,000 00
Deficiency, repairs of bridges	319 01
" Block-street drawbridge	1,276 27
" paving in front of city property	53 34
" repairs paved streets	684 54
" Light-street bridge	877 68
" board-walk North avenue	117 34
" public printing	34 75
" drawbridge City Block	509 87
" repairing streets, annex	612 18
Repairs of streets, roads and bridges in the Annex	30,000 00
Salaries and livery in the annex	2,432 00
	$185,676 98

CITY AND CIRCUIT COURTS.

BALTIMORE, January 10, 1895.

JOHN A. ROBB, ESQ., *City Register:*

DEAR SIR:

The following is the estimate of the expenses of this department for the year ending December 31, 1895:

CITY AND CIRCUIT COURT.

Superintendent's salary	$1,000 00
Watchman	900 00
Janitor	600 00
Assistant	300 00
Coal (60 tons at $5.50 per ton)	330 00
Gas	110 00
Ice	100 00
Brushes, buckets, brooms, feather dusters, soap, mops, etc	50 00
Repairs to furniture, locks, keys, etc	65 00
Cleaning and repairing stoves, new grates, relinings, etc	60 00
Whitewashing offices, yard, etc	15 00
Hauling ashes	17 00
Cleaning and relaying carpets	31 00
Incidentals	100 00
Oil cloth, window shades, etc	50 00
Washing towels	30 00
Wood for kindling (3 cords)	24 00
Hose	20 00

CIRCUIT COURT No. 2 AND COURT-ROOM, ETC., OF THE JUDGE AT LARGE.

Janitor's salary	600 00
Coal (14 tons at $5.50 per ton)	77 00
Wood (2 cords)	16 00
Amount carried forward	$4,495 00

Amount brought forward	$4,495 00
Gas	36 00
Ice	60 00
Buckets, brushes, brooms, mops, soap, etc	35 00
Repairs to furniture, stoves, locks, keys, etc.	45 00
Hauling ashes	7 00
Incidentals	50 00
Cleaning and relaying carpets	25 00
Hose	12 00
Washing towels	24 00
	$4,789 00

Respectfully submitted,

JAMES DONNELLY,

Superintendent City and Circuit Courts.

Reappropriations for 1895 *for the following streets.*

Patapsco alley, from Fort avenue to Ostend street	$ 715 14
Race street, from Cross street to Fort avenue	946 60
Burke street, from Baltimore to Monument street	231 00
Patapsco alley, from Ostend to West street	269 75
Cooksie street, from Clement to Cuba street	75 00
Amount carried forward	$2,237 49

Amount brought forward	$2,237 49
Henry street, from Randall to Fort avenue.	183 00
Ward street, from Bayard to Stockholm street	7 40
Randall street, from Covington to Webster street	218 33
Webster street, from Randall street to Fort avenue	672 13
Clement street, from Hanover to Race street	816 66
Etting street, from Baker to North avenue.	171 34
Collington avenue, from Monument to Biddle street	2,613 50
	$6,919 85

Approximate Estimate for 1875, *City's Proportion for Opening Streets.*

Bouldin alley from Bloom to Baker street.	$ 6,048 11
Bruce alley, from Baker to North avenue.	191 76
Northwest street, from Calhoun to Fulton avenue	1,756 48
Madison street, from Washington to Patterson Park avenue	6,154 54
Court-house lane, from St. Paul to Calvert street	30 648
	$14,457 37

Respectfully submitted,

C. L. Goodwin.

OFFICE BOARD OF POLICE COMMISSIONERS.

BALTIMORE, January 5th, 1895.

To the Mayor and City
Council of Baltimore:

GENTLEMEN:

We respectfully submit to you the following as the estimate for the expenditures of this department for the year 1895, viz:

The following expenditures are fixed by the Legislature:

Salaries of the Commissioners	$7,500 00	
Secretary	2,000 00	
Assistant Secretary	1,200 00	
Marshal	2,500 00	
Deputy Marshal	2,000 00	
Police Physicians (3)	3,000 00	
		$ 18,200 00
Clerk to Marshal, $25 per week	$ 1,300 00	
8 Captains, $30 per week.	12,480 00	
16 Lieutenants, $25 per week	20,800 00	
15 Detectives, $23 per week	17,940 00	
Amts. carried forward	$52,520 00	$18,200 00

Amts. brought forward...	$52,520 00	$18,200 00
14 Round Sergeants, $23 per week.....	16,744 00	
71 Squad Sergeants, $20 per week.....	73,840 00	
620 Policemen, $18 per week	580,320 00	
14 Turnkeys, $18 per week	13,104 00	
7 Station House Clerks $18 per week	6,552 00	
35 Probation Officers, $12 per week.....	21,840 00	
14 Matrons, $10 per week.	7,280 00	
		772,200 00
		$790,400 00
For miscellaneous operating expenses, such as gas, fuel, stationery, printing and advertising, electrical supplies, apparatus, station house supplies, cleaning, etc., maintenance of wagons and horses, mounted service, incidental expenses, etc.....		$25,000 00
Total.....		$815,400 00

Very respectfully,

E. M. Schryver,

John Gill,

John C. Legg,

Police Commissioners.

HARBOR BOARD OF BALTIMORE—ENGINEER'S OFFICE.

BALTIMORE, January 7, 1895.

JOHN A. ROBB, ESQ., *City Register:*

DEAR SIR:

I propose to recommend to the Harbor Board at its next meeting on January 15, that the following appropriations be requested for 1895:

For dredging and surveys of harbor, including Middle Branch, Back Basin, docks and channels	$50,000 00
For dredging Jones' Falls	15,000 00
For operation and repair of ice-boats	25,000 00
For general repairs to wharves	3,000 00
For building new stone bulkheads in city dock	6,000 00
For removal of ashes from tow-boats	1,500 00
	$100,500 00

Respectfully, etc.,

N. H. HUTTON,

Engineer, Harbor Board.

BALTIMORE, January 2, 1895.

JOHN A. ROBB, ESQ., *City Register:*

DEAR SIR:

The following is the estimated expenses of the Criminal Court, Record Office and grounds, required for the year 1895:

Superintendent's salary	$ 1,200 00
Watchman's salary	1,000 00
Janitor of Criminal Court building, basement and grounds	600 00
Cleaning Criminal Court	350 00
Cleaning Grand Jury room	350 00
Cleaning Court of Common Pleas	350 00
Janitress for ladies' room	300 00
100 tons coal for Criminal Court, Superior, Common Pleas, Jury, Grand Jury, witness' room, Clerk's Office, at $5.50	550 00
50 tons coal for Record Office, at $5.50	275 00
8 cords kindling wood, same as for coal, at $8.00	64 00
Gas for Criminal Court buildings, basement and offices	200 00
Amount carried forward	$5,239 00

Amount brought forward	$5,239 00
Ice for Criminal Court, Superior, Common Pleas, jury rooms, offices, &c	150 00
Ice-coolers and repairing	50 00
Removing ashes and refuse	75 00
Whitewashing Criminal Court building and yard	75 00
Gas fixtures, globes and repairs, Criminal, Superior and Common Pleas	50 00
Locks, keys and repairs	30 00
Window curtains and awnings	50 00
Brooms, buckets, brushes, mops, towels, soap, soda, &c	100 00
Furniture, chairs, desks, &c	100 00
Carpets, oil cloth and linoleum	100 00
Repairing furniture	100 00
Repairing furnaces, stoves and grates	150 00
	$6,269 00

Respectfully submitted,

JOHN D. COOK,

Superintendent of Criminal Court.

HEALTH DEPARTMENT.

BALTIMORE, January 8, 1895.

JOHN A. ROBB, ESQ., *City Register:*

DEAR SIR:

The following estimates for the expenses of the Health Department for the year 1895 have been carefully made up, and are based upon the experience of absolute necessities:

Salaries	$44,800 00
General health	20,000 00
Nuisance and sewers	16,000 00
Post-mortems	1,500 00
Quarantine Hospital	20,000 00
Removing filth from docks	5,000 00
Removal of canning and packing-house refuse	5,000 00
	$112,300 00

CITY ANNEX.

Salaries	$3,800 00
Nuisance and sewers	3,000 00
	$6,800 00

Respectfully yours,

JAMES F. MCSHANE, M.D.,
Commissioner of Health.

CITY LIBRARY—CITY HALL.

BALTIMORE, January 5, 1895.

MR. JOHN A. ROBB, *City Register:*

DEAR SIR:

The appropriations needed for this department for the year 1895, are estimated at $10,765 50, as follows:

Stationery, blank books and printing as per contract for 1895	$ 9,549 51
Clerk hire	900 00
Telephone hire	66 00
Binding and purchase of books	250 00
	$10,765 51

Respectfully yours,

GEO. C. WEDDERBURN,

City Librarian.

TAX DEPARTMENT,

CITY COLLECTOR'S OFFICE—CITY HALL,

BALTIMORE, December 26, 1894.

JOHN A. ROBB, ESQ., *City Register:*

DEAR SIR:

Herewith I respectfully submit estimates for salaries of the City Collector and employees in his department, incidental expenses of the Tax Department, and salaries of the Judges and employees of the Appeal Tax Court for the fiscal year ending December 31, 1895, aggregating $63,900.

I am, respectfully,

Your obedient servant,

J. T. M. BARNES,

Deputy City Colllector.

Tax Department.

1 City Collector	$2,000 00
1 Deputy City Collector	2,500 00
1 Cashier	1,600 00
1 Assistant Cashier	1,400 00
Amount carried forward	$7,500 00

Amount brought forward	$7,500 00
1 Bookkeeper	1,600 00
1 General Cash Bookkeeper	1,600 00
1 Transfer Clerk	1,300 00
1 Annex Clerk	1,300 00
13 Ledger Clerks, at $1,300 each	16,900 00
Incidental expenses of Tax Department	3,500 00
Total	$33,700 00

Appeal Tax Court.

3 Judges, at $1,800 each	$5,400 00
1 Chief Clerk	1,600 00
1 Assistant Clerk	1,600 00
1 Assessor of New Improvements	1,400 00
1 " " " for Annex	1,200 00
1 Chief Assessor of old real estate	1,800 00
4 Assistant Assessors of old real estate, at $1,200 each	4,800 00
2 Clerks to Assessors, at $1,200 each	2,400 00
28 Assessors of personal property	10,000 00
Total	$30,200 00
Grand Total	$63,900 00

Respectfully submitted,

J. T. M. Barnes,

Deputy City Collector.

OFFICE OF THE BOARD OF SUPERVISORS OF ELECTION IN THE CITY OF BALTIMORE—CITY HALL.

BALTIMORE, January 4, 1895.

JOHN A. ROBB, ESQ., *City Register:*

SIR:

The Board of Supervisors of Election instructs me to submit the following as the estimate of the expenses of this department for the year 1895:

For expenses of the office, including salaries and incidentals	$14,000 00
For expenses of registration	30,000 00
For expenses of elections	18,000 00
Total	$62,000 00

By order of the Board of Supervisors:

J. N. FOSTER,

Clerk.

OFFICE INSPECTOR OF BUILDINGS—CITY HALL.

BALTIMORE, January 4, 1895.

JOHN A. ROBB., ESQ., *City Register:*

DEAR SIR:

The appropriations required for this department for the year 1895 are as enclosed:

Respectfully yours,

J. THEODORE OSTER,

Inspector of Buildings.

Showing the amount required for this department for the year 1895.

For repairs of city property:

For engine-houses	$16,000 00	
" City Jail	3,000 00	
" City Hall	4,000 00	
" market-houses	6,000 00	
" court-houses	1,000 00	
" Dog Pound and other property	1,000 00	
		$31,000 00
Amount carried forward		$31,000 00

Amount brought forward		$31,000 00
For repairs of public schools:		
For general repairs	$15,000 00	
" painting school-houses	6,000 00	
" partitions and storm doors	1,000 00	
" substituting wood and iron for plastered ceilings	3,000 00	
		25,000 00
For sanitary and other improvements		4,000 00
" emptying cesspools		1,000 00
" incidentals		200 00
" livery of two horses and repairs to wagons		600 00
For salaries		5,500 00
" extra out-door help		6,200 00
" rental of auxiliary fire-alarm boxes		4,200 00
" winding clocks at engine-houses		200 00
" extra help, Annex		1,240 00
" livery and repair to wagon, Annex		300 00
For repairs to city property, Annex		8,000 00
For building Hook-and-Ladder House, No. 10		4,940 90
For building No. 35 Primary School, South Baltimore		25,000 00
Additional appropriation, English-German School No. 6		6,000 00
For fitting up and furnishing Judge Dobbler's office		325 00
		$265,934 08

REPORT OF

The Department of Finance,

FOR THE YEAR 1894.

REPORT.

DEPARTMENT OF FINANCE,

BALTIMORE, December 31, 1894.

To the Honorable the Members of the First and Second Branches of the City Council:

GENTLEMEN:

The Commissioners of Finance have the honor to submit herewith for your consideration statements in detail, exhibiting their transactions during the current year, as follows:

1. A summary of receipts and payments on account of the various sinking funds.

2. A statement of purchases of stocks.

3. A statement showing the condition of the various sinking funds.

4. A statement of the condition of the Enoch Pratt Free Library Sinking Fund.

5. A statement of the condition of the Horwitz Benevolent Fund.

6. A schedule of real estate and ground rents, upon the books of the Commissioners of Finance, from which income is derived.

7. A statement of the funded and guaranteed debt.

8. A balance sheet of the sinking funds' ledger.

9. A statement of the indebtedness of the Western Maryland R. R. Company to the Mayor and City Council of Baltimore.

The matters embraced in the foregoing are exhibited under their respective heads in a detailed form in the Appendix to this report.

1—RECEIPTS AND PAYMENTS.

The receipts have been derived as follows:

From cash to credit of sinking funds, December 31, 1893	$195,130	79
From Baltimore and Ohio R. R. Co. on account of purchase of Pittsburg and Connellsville R. R. Bonds	40,000	00
From interest on stocks and investments	245,137	32
From rental of real estate.	25,497	10
Amt. carried forward...	$505,765	21

Amt. brought forward..	$505,765	21
From rental of Hillen Station, Ordinance No. 97, 1875.....	16,000	00
From rental of Western Maryland Railroad Terminal Company Depot, Ordinance No. 92, 1882.	9,181	47
From sales of $680,900 Western Maryland Railroad 3¼ per cent. 1927 Loan.....	642,658	02
From sales of $305,400 Consolidated 3½ per cent. 1930 Loan.....	307,276	50
From sales of $86,000 City Hall 6 per cent. 1900 Loan.....	94,625	80
From sales of $45,900 City Hall 6 per cent, 1902 Loan.....	51,651	27
From sales of $155,200 Funding 6 per cent. 1900 Loan.....	171,542	56
From sales of $62,000 Jones Falls 6 per cent. 1900 Loan.....	68,076	00
Amt. carried forward..	$1,866,776	83

Amt. brought forward..	$1,866,776	83
From sales of $93,000 Western Maryland Railroad 6 per cent. 1902 Loan.....	105,127	20
From sales of $24,200 Water 5 per cent. 1916 Loan.....	28,338	20
From sales of $31,700 Funding 5 per cent. 1916 Loan	37,120	70
From sales of $50,000 Harford Run 4 per cent. 1920 Loan.	52,040	00
From sales of $31,000 Paving 4 per cent. 1920 Loan	31,954	80
From sales of $133,700 Western Maryland Railroad 4 per cent. 1925 Loan.....	139,756	61
From sales of $194,000 Water 4 per cent. 1926 Loan.....	199,955	80
From sales of $53,700 Jones Falls 3.65 per cent. 1900 Loan.....	53,742	96
From sales of $160,000 Jones Falls 3½ per cent. 1900 Loan	156,912	00
Amt. carried forward..	$2,671,725	10

Amt. brought forward..	$2,671,725	10
From sales of $397,900 Internal Improvement 3½ per cent. 1928 Loan....	398,974	33
From sales of $75,900 Public Improvement 3½ per cent. 1940 Loan.....	76,104	93
From sales of $53,700 Jones Falls 3 per cent. 1900 Loan.....	51,041	85
From sales of $236,000 Western Maryland Railroad 6 per cent. Third Mortgage Registered Bonds.....	258,538	00
From sales of $101,000 Western Maryland Railroad 6 per cent. Third Mortgage coupon Bonds.	111,655	50
From redemption of Water 5 per cent. 1894 Loan..	1,650,400	00
From City Collector, for General Sinking Fund..	144,731	28
From City Collector, for Water 1926 Loan Sinking Fund.....	28,959	29
Amt. carried forward..	$5,392,130	28

Amt. brought forward..	$5,392,130 28	
From City Collector, for Internal Improvement Loan Sinking Fund....	86,850 88	
From City Collector for Public Improvement Loan sinking fund.....	40,884 47	
From sale of property belonging to late Samuel H. Tagart under Ordinance No. 211, 1893....	15,200 00	
From premium on sales of $972,900 Public Improvement 1940 Loan..	18,114 47	
		$5,553,180 10
The payments have been as follows:		
For investment purchases	$1,181,976 87	
For interest on Western Maryland Railroad 6 per cent. 1902 Loan.....	60,000 00	
For interest on Western Maryland Railroad 6 per cent. Third Mortgage Bonds.....	52,800 00	
For redemption of Consolidated 6 per cent. 1890 Loan.....	1,433 33	
Amts. carried forward..	$1,296,210 20	$5,553,180 10

Amts. brought forward.	$1,296,210 20	$5,553,180 10
For redemption of Consolidated 6 per cent. 1893 Loan.....	4,700 00	
For redemption of Exempt 6 per cent. 1893 Loan..	14,100 00	
For redemption of Water 6 per cent. 1894 Loan...	263,000 00	
For redemption of Water 6 per cent. 1894 Loan..	3,660,800 00	
For redemption of Five Million 6 per cent. 1890 Loan.....	2,716 66	
For payment to Enoch Pratt Free Library.....	50,000 00	
For payment to Mayor and City Council for condemnation of land for Park purposes, Ordinance No. 84, 1891.....	40,816 12	
For purchase of ground rent under Ordinance No. 81, 1881.....	3,293 33	
For amount paid D. L. Bartlett, Treasurer McDonogh Educational Fund and Institute, Ordinance No. 211, 1893...	15,200 00	
Amts. carried forward..	$5,350,836 31	$5,553,180 10

Amts. brought forward.	$5,350,836 31	$5,553,180 10
For sundry expenses as detailed in Statement No. 1	2,433 63	
		$5,353,269 94
Balance to credit of sinking funds December 31, 1894		$199,910 16

2—INVESTMENT PURCHASES OF STOCKS AND BONDS.

This statement is submitted in obedience to Article XLVII, Section 13, of City Code, and exhibits in detail the purchase of stocks and bonds amounting to $1,158,500, at an average cost of 102.02 per cent., the total cost of purchase being	$1,181,976 87

3—THE REDEMPTION AND SINKING FUNDS.

Exhibiting in detail the amount and condition of the investments of the funds as shown by the books of the Commissioners of Finance, as follows:

General Sinking Fund	$1,666,099 67
Public Park Sinking Fund.	24,499 48
Western Maryland Railroad 1925 Loan Sinking Fund	60,543 92
Amt. carried forward	$1,751,143 07

Amt. brought forward.		$1,751,143 07
Western Maryland Railroad 1927 Loan Sinking Fund		125,630 52
Hillen Station Sinking Fund		52,577 51
Western Maryland Railroad Terminal Company Sinking Fund		17,959 44
Water 1926 Loan Sinking Fund		184,813 73
Internal Improvement Loan Sinking Fund		393,596 48
Public Improvement Loan Sinking Fund		57,920 58
		$2,583,641 33

INCREMENT OF THE SINKING FUNDS.

The increment of the sinking funds from December 31, 1893 to December 31, 1894, amounting to		$445,002 97
was derived thus:		
From interest upon investments	$192,124 36	
Amt. carried forward	$192,124 36	

Amt. brought forward..		$192,124 36
From rent of Hillen Station.....	$16,000 00	
Less amount set apart in the sinking fund.....	2,000 00	
		14,000 00
From rent of W. Md. R. R. Ter. Co. depot.....	$9,181 47	
Less amount set apart in sinking fund.	1,311 60	
		7,869 87
From rental of real estate.		25,497 10
From premium on sales of stock.....		84,007 50
From City Collector for General Sinking Fund.		144,731 28
From City Collector for Internal Improvement Loan Sinking Fund....		86,850 88
From City Collector for Public Improvement Loan Sinking Fund....		40,884 47
Amt. carried forward..		$595,965 46

Amt. brought forward..	$595,965 46	
From City Collector for Water 1926 Loan Sinking Fund	28,959 29	
		624,924 75
From which deduct:		
Interest paid on Western Maryland Railroad 6 per cent. 1902 Loan..	60,000 00	
Interest paid on Western Maryland Third Mortgage Guaranteed Bonds.	52,800 00	
Premium on purchases of stock	23,209 37	
Amount paid Mayor and City Council for condemnation of land for park purposes, Ordinance No. 84 of 1891...	40,816 12	
Amount paid for accrued rent on ground rent purchased.....	43 33	
Amount paid for expenses for Public Improvement Loan Sinking Fund during 1892 and 1893, and repaid in present year..	1,105 45	
Amts. carried forward.	$177,974 27	$624,924 75

Amts. brought forward.		$177,974 27	$624,924 75
Amount paid for sundry expenses....	$2,433 63		
Less amount of expenses advanced Four Million Loan Sinking Fund.....	486 12		
		1,947 51	
			179,921 78
			$445,002 97

And disbursed as shown by Statement No. 1 of Appendix.

4—ENOCH PRATT FREE LIBRARY SINKING FUND.

This statement shows the condition of the Enoch Pratt Free Library Sinking Fund on December 31, 1894, under the control of the Commissioners of Finance, who are required "to invest the interest upon the investments in the sinking fund, and the interest upon the interest, as the same shall be received in the public debt of the city of Baltimore, until the annual income from said investments shall reach the sum of fifty thousand dollars." (Article XXXVIII–A, Section 8, Baltimore City Code.)

The above-named law has been obeyed, and in 1892 the fund reached an amount sufficient to yield an annual income of $50,000, but by the redemption of maturing loans in the fund, bearing 6 and 5 per cent. interest, in 1893 and 1894, amounting to $42,000, and the re-investment of the amount in stock bearing 3½ per cent. interest the income in 1894 was reduced to $49,481.33, and in 1895 it will be further reduced to $49,390, which with the amount of cash in the fund of $238.14 will leave a deficiency in the income of $371.86 in that year, and annually thereafter until the year 1900 a deficiency of $610. It will therefore be necessary for the Mayor and City Council to make annual appropriations sufficient to meet this deficiency, or to purchase an amount of city stock to be added to the fund, the interest on which will annually amount to $610.

5—THE HORWITZ BENEVOLENT FUND.

This statement shows the condition of the Horwitz Benevolent Fund under the management of the Commissioners of Finance, who, on December 28, 1888, under authority of Resolution No. 7 of 1888, accepted from the executors of Orville Horwitz, late of Baltimore city, deceased, the sum of ten thousand dollars, which with its increments is in the said last will and testament directed to be known as the "Horwitz Benevolent Fund."

6—REAL ESTATE AND GROUND RENTS.

The schedule of real estate and ground rents presented in this form for convenience of reference, embraces only

so much of the city property as is in control and shown upon the books of this Board, and from which income is derived from rentals.

The income derived from the public wharves and other valuable property being applied to current expenses does not appear in these accounts. (Article XLVII, Section 14, Baltimore City Code.)

7—FUNDED DEBT AND GUARANTEES.

These issues on December 31, 1893, amounted to..		$34,100,475 46
On December 31, 1894, they to....		31,126,625 57
Showing a decrease during the year of....		$2,973,849 99
Thus:		
Amount of Consolidated 6 per cent. 1890 Loan redeemed....	$ 1,433 33	
Amount of Consolidated 6 per cent. 1893 Loan redeemed..	4,700 00	
Amount of exempt 6 per cent. 1893 Loan redeemed.....	14,100 00	
Amt. carried forward..	$20,233 33	

Amt. brought forward.	$20,233 33	
Amount of Five Million 6 per cent. 1890 Loan redeemed.....	2,716 66	
Amount of Water 6 per cent. 1894 Loan redeemed	263,000 00	
Amount of Water 5 per cent. 1894 Loan redeemed	3,660,800 00	
		$3,946,749 99
Less amount of Public Improvement 3½ per cent. 1940 Loan issued.....		972,900 00
		$2,973,849 99

INCREASE OF FUNDED DEBT AUTHORIZED.

Public Improvement 3½ per cent. 1940 Loan, Ordinance No. 100, 1892.....	$3,267,600 00	
Four Million 1945 Loan, Ordinance No. 137, 1894.	4,000,000 00	
		$7,267,600 00

THE FINANCIAL CONDITION OF THE CORPORATION.

Amount of funded debt December 31, 1894.....$30,134,625 57		
Amount of guaranteed debt December 31, 1894.....	992,000 00	
		$31,126,625 57
Amt. carried forward..		$31,126,625 57

Amt. brought forward..		$31,126,625 57
Of this amount interest is provided or paid as follows:		
Water Board, upon.....	$6,500,000 00	
Park Board, upon.....	200,000 00	
Union Railway Co., upon.	117,000 00	
Western Maryland Railroad Co., upon.....	2,388,000 00	
Commissioners of Finance, upon.....	1,875,000 00	
Overdue stock, no interest allowed.....	98,501 77	
		$11,178,501 77
Leaving the amount on which interest is paid by taxation at.....		$19,948,123 80

PRODUCTIVE INVESTMENTS.

Mortgage on Union Railroad Company.....	$117,000 00	
Mortgage on Western Maryland Railroad Company.	2,388,000 00	
Value of Sinking Funds..	2,583,641 33	
550 shares Baltimore and Reisterstown Turnpike Stock.....	2,062 50	
137 shares Baltimore and Frederick Turnpike Stock.....	456 66	
Amt. carried forward..	$5,091,160 49	

Amt. brought forward.		$5,091,160 49	
625 shares Baltimore and York Turnpike Stock..		5,000 00	
Real estate, annual rental..	$10,225 11		
Wh'rf property, annual rental	38,000 00		
Market property, annual rental..... ..	50,000 00		
	$98,225 11		
Capitalized at 6 per cent..		1,637,085 16	
Water works		10,500,000 00	
			$17,233,245 65

UNPRODUCTIVE INVESTMENTS.

Mortgage on Western Maryland Railroad Company.		$1,875,000 00	
Accrued interest advanced for Western Maryland Railroad Company.....		3,293,437 09	
83,000 Philadelphia and Reading Third Preferred Income Bonds..... ..		83,000 00	
4,000 shares Western Maryland Railroad Stock....		200,000 00	
10,000 shares Valley Railroad of Virginia Stock.		1,000,000 00	
			$6,451,437 09

The foregoing statement does not embrace any items connected with current receipts and expenditures, but refers only to the stock and bond liabilities of the corporation, and to investments specially set apart for the redemption of the same. The accounts now submitted for your consideration exhibit in detail all the transactions of the past fiscal year.

They show the receipts to have been		$5,553,180 10
For investment purchases (see Statement No. 2, appendix)	$1,181,976 87	
For interest paid for Western Maryland Railroad Company	112,800 00	
For redemption of loans	3,946,749 99	
For condemnation of land for park purposes, Ordinance No. 84, 1891	40,816 12	
For purchase of ground rent, Ordinance No. 81, 1881	3,293 33	
For amount paid to Enoch Pratt Free Library	50,000 00	
For amount paid to D. L. Bartlett, Treasurer	15,200 00	
For sundry expenses	2,433 63	
		5,353,269 94
Balance, amount in bank to credit of funds		$199,910 16

The value of the sinking funds December 31, 1893, was		$6,082,671 69
The value of the sinking funds December 31, 1894, was		2,583,641 33
Showing a decrease during the past year of		$3,499,030 36
Caused by the redemption of loans	$3,944,033 33	
Less: Increment of the funds during the year	445,002 97	
		$3,499,030 36

Sales of $972,900 of Public Improvement 3½ per cent. 1940 Loan were made during the year, producing $991,075.72.

Respectfully submitted,

FERDINAND C. LATROBE, *Chairman*,
JAMES SLOAN, JR.,
JOHN B. RAMSAY,

Commissioners of Finance.

JOHN A. ROBB,

Clerk to Commissioners of Finance.

APPENDIX.

STATEMENT

Dr. *The Commissioners of Finance in account*

To balance, amount in bank to credit of sinking funds on December 31, 1893		$ 195,130 79
To General Sinking Fund:		
From interest on stocks and investments	$ 166,134 44	
From rental of real estate.	25,497 10	
From City Collector by tax levy	144,731 28	
From rental of Hillen Station	14,000 00	
From rental of Western Maryland Railroad Terminal Company Depot .	7,869 87	
From sales of $300,000 Western Maryland Railroad 3¼ per cent. 1927 Loan	285,447 00	
From sales of $200,000 Western Maryland Railroad 3¼ per cent. 1927 Loan	189,824 25	
Amts. carried forward..	$833,503.94	$195,130 79

No. 1.

with the Mayor and City Council of Baltimore. Cr.

By General Sinking Fund:

For $600 Jones Falls 6 per cent. 1900 Loan	$ 682 50
For $3,400 Funding 6 per cent. 1900 Loan.....	3,867 50
For $7,400 City Hall 6 per cent. 1900 Loan.....	8,417 50
For $4,000 Western Maryland Railroad 6 per cent. Third Mortgage Guaranteed Bonds (coupon)....	4,430 00
For $17,000 Western Maryland Railroad 6 per cent. Third Mortgage Guaranteed Bonds (registered).	19,082 50
For $831,500 Water 5 per cent. 1894 Loan.....	851,798 62
For $32,400 Western Maryland Railroad 3¼ per cent. 1927 Loan.....	31,919 25
For $400 Jones Falls 3 per cent. 1900 Loan	385 00
Amt. carried forward...	$920,582 87

STATEMENT

DR. *The Commissioners of Finance in account*

Amts. brought forward.	$833,503 94	$195,130 79
From sales of $140,100 Consolidated 3½ per cent. 1930 Loan.....	141,530 19	
From sales of $2,331,100 various securities to the Mercantile Trust and Deposit Company of Baltimore, May 2, 1894....	2,420,291 59	
From redemption of Water 5 per cent. 1894 Loan..	1,539,400 00	
From Baltimore and Ohio Railroad Company on account of purchase of Pittsburg and Connellsville Railroad Bonds...	40,000 00	
		4,974,725 72
To W. Md. R. R. Terminal Co. Sinking Fund:		
From interest on stocks..	$ 708 18	
From one-seventh rent of		
Amts. carried forward..	$708 18	$5,169,856 51

No. 1—Continued.

with the Mayor and City Council of Baltimore. Cr.

Amt. brought forward.	$920,582 87
For redemption of Consolidated 6 per cent. 1890 Loan.....	1,433 33
For redemption of Consolidated 6 per cent. 1893 Loan.....	4,700 00
For redemption of Exempt 6 per cent. 1893 Loan..	14,100 00
For redemption of Water 6 per cent. 1894 Loan...	263,000 00
For redemption of Water 5 per cent. 1894 Loan..	3,660,800 00
For interest on Western Maryland Railroad 6 per cent. 1902 Loan.....	60,000 00
For interest on Western Maryland Railroad 6 per cent. Third Mortgage Bonds.....	52,800 00
For books, advertising, etc.	1,156 27
For clerical services.....	683 33
Amt. carried forward...	$4,979,255 80

STATEMENT

DR. *The Commissioners of Finance in account*

Amts. brought forward.	$708 18	$5,169,856 51
Western Maryland Railroad Terminal Company Depot	1,311 60	
From redemption of Water 5 per cent. 1894 Loan	1,600 00	
		3,619 78
To Hillen Station Sinking Fund:		
From interest on stocks	$2,238 14	
From one-eighth rent of Hillen Station	2,000 00	
From redemption of Water 5 per cent. 1894 Loan	7,300 00	
		11,538 14
To Western Maryland Railroad 1925 *Loan Sinking Fund:*		
From interest on stocks	$2,509 37	
From redemption of Water 5 per cent. 1894 Loan	2,900 00	
		$5,409 37
Amt. carried forward...		$5,190,423 80

No. 1—Continued.

with the Mayor and City Council of Baltimore. Cr.

Amt. brought forward..	$4,979,255 80	
For purchase of ground rent under Ordinance No. 81 of 1881.....	3,250 00	
For accrued rent on said lot of ground.....	43 33	
		4,982,549 13
By Public Park Sinking Fund:		
For condemnation of land for park purposes.....		40,816 12
By Western Maryland Railroad Terminal Company Sinking Fund:		
For $3,500 Public Improvement 3½ per cent. 1940 Loan.....		3,500 00
By Hillen Station Sinking Fund:		
For $900 Jones Falls 6 per cent. 1900 Loan.....	$1,023 75	
Amts. carried forward..	$1,023 75	$5,026,865 25

STATEMENT

DR. *The Commissioners of Finance in account*

Amt. brought forward..		$5,190,423 80
To Western Maryland Railroad 1927 *Loan Sinking Fund:*		
From interest on stocks ..	$4,311 90	
From redemption of Water 5 per cent. 1894 Loan...	200 00	
		4,511 90
To Internal Improvement 1928 *Loan Sinking Fund:*		
From interest on stocks..	$12,709 31	
From redemption of Water 5 per cent. 1894 Loan ..	38,300 00	
From City Collector by tax levy.....	86,850 88	
		137,860 19
To Water 1926 *Loan Sinking Fund:*		
From interest on stocks...	$6,459 34	
From redemption of Water 5 per cent. 1894 Loan..	37,300 00	
Amts. carried forward..	$43,759 34	$5,332,795 89

No. 1—Continued.

with the Mayor and City Council of Baltimore. Cr.

Amts. brought forward.	$1,023 75	$5,026,865 25
For $500 Western Maryland Railroad Co., 6 per cent. 1902 Loan..... .	583 75	
For $10,000 Public Improvement 3½ per cent. 1940 Loan.....	10,000 00	
		11,607 50
By Western Maryland Railroad 1925 *Loan Sinking Fund:*		
For $5,500 Public Improvement 3½ per cent. 1940 Loan....		5,500 00
By Western Maryland Railroad 1927 *Loan Sinking Fund:*		
For $4,500 Public Improvement 3½ per cent. 1940 Loan.....		4,500 00
Amt. carried forward..		$5,048,472 75

STATEMENT

DR. *The Commissioner of Finance in account*

Amts. brought forward.	$43,759 34	$5,332,795 89
From City Collector by tax levy.....	28,959 29	72,718 63
To Public Improvement 1940 Loan Sinking Fund:		
From premiums on sales of stocks.....	$18,114 47	
From City Collector by tax levy.....	40,884 47	58,998 94
To Enoch Pratt Free Library Sinking Fund:		
From interest on stock...	$49,481 83	
From redemption of Water 5 per cent. 1894 Loan...	22,900 00	72,381 83
To Mercantile Trust and Deposit Company of Baltimore:		
From sale of $2,331,100 of various city securities..		2,420,291 59
Amt. carried forward ..		$7,957,186 88

No. 1—Continued.

with the Mayor and City Council of Baltimore. Cr.

Amt. brought forward.		$5,048,472 75
By Internal Improvement 1928 *Loan Sinking Fund:*		
For $33,200 Western Maryland Railroad 3¼ per cent. 1927 Loan.....	32,318 75	
For $76,300 Public Improvement 3½ per cent. 1940 Loan.....	76,300 00	
		108,618 75
By Water 1926 *Loan Sinking Fund:*		
For $1,000 City Hall 6 per cent 1900 Loan.....	$ 1,167 50	
For $1,000 Western Maryland Railroad 6 per cent. 1902 Loan	1,167 50	
For $2,000 Park Improvement 6 per cent. 1895 Loan.....	2,065 00	
For $3,900 Water 5 per cent. 1894 Loan.....	3,992 75	
Amts. carried forward..	$8,392 75	$5,157,091 50

STATEMENT

DR. *The Commissioners of Finance in account*

Amt. brought forward..		$7,957,186 88
To Horwitz Benevolent Fund:		
From interest on stock...	584 81	
From redemption of Water 5 per cent. 1894 Loan ..	500 00	
		1,084 81
To Trustees of McDonogh Educational Fund and Institute:		
From sale of property under Ordinance No. 211, 1893.....		15,200 00
Amt. carried forward..		$7,973,471 69

No. 1—Continued.

with the Mayor and City Council of Baltimore. CR.

Amts. brought forward.	$8,392 75	$5,157,091 50
For $50,000 Public Improvement 3½ per cent. 1940 Loan.....	50,000 00	
For $10,000 Western Maryland Railroad 3¼ per cent. 1927 Loan.....	9,850 00	
		68,242 75
By Public Improvement 1940 Loan Sinking Fund:		
For $26,500 Public Improvement 3½ per cent. 1940 Loan.....	26,500 00	
For $9,000 Western Maryland Railroad 3¼ per cent. 1927 Loan.....	8,865 00	
For advertising.....	107 91	
		35,472 91
By Four Million Loan Sinking Fund:		
For advertising.....		486 12
Amt. carried forward...		$5,261,293 28

STATEMENT

DR. *The Commissioner of Finance in account*

Amt. brought forward.....	$7,937,471 69
Amt. carried forward.....	$7,937,471 69

No. 1—Continued.

with the Mayor and City Council of Baltimore. Cr.

Amt. brought forward..		$5,261,293 28
By Enoch Pratt Free Library Sinking Fund:		
For amount paid to Enoch Pratt Free Library.....	50,000 00	
For $22,900 Public Improvement 3½ per cent. 1940 Loan.....	22,900 00	
		72,900 00
By Mercantile Trust and Deposit Company of Baltimore:		
For $2,331,100 City Securities purchased May 2, 1894.....		2,420,291 59
By Horwitz Benevolent Fund:		
For $300 Water 5 per cent. 1916 Loan.....	360 00	
For $800 Public Improvement 3½ per cent. 1940 Loan	800 00	
		1,160 00
Amt. carried forward...		$7,755,644 87

STATEMENT

Dr. *The Commissioner of Finance in account*

Amt. brought forward.....	$7,973,471 69
	$7,973,471 69

No. 1—Concluded.

with the Mayor and City Council of Baltimore. CR.

Amt. brought forward..	$7,755,644 87
By Trustees of McDonogh Educational Fund and Institute:	
For amount paid D. L. Bartlett, Treasurer.	15,200 00
By Redemption of Five Million 1890 *Loan.*	
For redemption of stock..	2,716 66
By balance, cash in bank to credit of sinking funds on December 31, 1894	199,910 16
	$7,973,471 69

STATEMENT No. 2.

"The Commissioners of Finance shall invest in city stock all moneys in their hands received from the sale or rent of city property, pledged for the redemption of the public debt; and shall invest all moneys that may hereafter be received from the above-mentioned sources, as well as all interest accruing thereon, from time to time, and report to the City Council the amounts purchased, and the dates and prices at which they were purchased." (Article XLVII, Section 13, Baltimore City Code.)

Date.	Sinking Fund.	Amount Purchased.	Description of Stock.	Amount Paid.
1894.				
Jan. 11	General.....	$ 11,600 00	Water 5 per cent. 1894 Loan.....	$11,774 00
" 11	"	600 00	Jones Fall 6 per cent. 1900 Loan..	682 50
" 11	"	2,900 00	Funding 6 per cent. 1900 Loan....	3,298 75
" 15	"	7,400 00	City Hall 6 per cent. 1900 Loan...	8,417 50
" 15	"	500 00	Funding 6 per cent. 1900 Loan....	568 75
" 29	Water 1926 Loan...	1,000 00	City Hall 6 per cent. 1902 Loan..	1,167 50
" 29	" 1926 " ...	1,000 00	W. Md. 6 per cent. 1902 Loan. ..	1,167 50
Feb. 1	Hillen Station.....	900 00	Jones Falls 6 per cent. 1900 Loan.	1,023 75
" 9	" "	500 00	W. Md. 6 per cent, 1902 Loan....	583 75
" 13	Water 1926 Loan...	2,000 00	Park Impt. 6 per cent. 1895 Loan.	2,065 00
" 16	" 1926 " ...	1,600 00	Water 5 per cent. 1894 Loan.....	1,636 00
" 19	" 1926 " ...	300 00	" 5 " 1894 "	306 75

Feb. 20	Water 1926 Loan	2,000 00	Water 5 per cent. 1894 Loan	2,050 00
" 26	General	2,100 00	W. Md. 3¼ per cent. 1927 Loan	2,073 75
" 26	"	400 00	Jones Falls 3 per cent 1900 Loan.	385 00
" 26	"	1,000 00	Water 5 per cent. 1894 Loan	1,030 00
" 26	"	3,000 00	" 5 " 1894 "	3,078 75
" 26	"	4,000 00	W. Md. 6 p. ct. coupon bonds (3rds.)	4,430 00
Mar. 2	"	5,700 00	Water 5 per cent. 1894 Loan	5,913 75
" 3	"	100,000 00	" 5 " 1894 "	104,250 00
" 16	"	100,000 00	" 5 " 1894 "	103,750 00
" 27	"	371,700 00	" 5 " 1894 "	382,851 00
" 29	"	1,500 00	" 5 " 1894 "	1,545 00
Apl. 16	"	3,100 00	" 5 " 1894 " ex. int.	3,123 25
" 17	"	140,100 00	" 5 " 1894 " "	140,100 00
" 20	"	2,000 00	" 5 " 1894 " "	2,015 00
May 8	"	2,300 00	" 5 " 1894 "	2,317 25
" 11	"	10,500 00	" 5 " 1894 "	10,578 75
" 14	"	1,700 00	" 5 " 1894 "	1,704 25
" 14	"	9,200 00	" 5 " 1894 "	9,269 00
" 15	"	10,000 00	" 5 " 1894 "	10,050 00
" 16	"	900 00	" 5 " 1894 "	904 50
" 17	"	19,300 00	" 5 " 1894 "	19,444 75
" 28	"	10,000 00	" 5 " 1894 "	10,050 00
June 1	"	3,900 00	" 5 " 1894 "	3,916 80
	Am'ts carried for'd.	$83,470 00		$857,522 55

STATEMENT No. 2—Continued.

DATE.	SINKING FUND.	AMOUNT PURCHASED.	DESCRIPTION OF STOCK.	AMOUNT PAID.
1894.	Am'ts brought for'd.	$834,700 00		$857,522 55
June 1	General	1,000 00	Water 5 per cent. 1894 Loan	1,004 30
" 5	"	700 00	" 5 " 1894 "	703 40
" 5	"	700 00	" 5 " 1894 "	703 40
" 6	"	1,000 00	" 5 " 1894 "	1,005 00
" 6	"	11,000 00	" 5 " 1894 "	11,055 00
" 6	"	3,400 00	" 5 " 1894 "	3,425 50
" 8	"	600 00	" 5 " 1894 "	603 17
" 11	"	3,200 00	" 5 " 1894 "	3,218 22
" 13	"	1,400 00	" 5 " 1894 "	1,408 61
" 13	"	1,000 00	" 5 " 1894 "	1,005 97
" 22	Horwitz Benev. F'nd	300 00	" 5 " 1916 "	360 00
July 2	Internal Imp't Loan.	21,900 00	W. Md. 3¼ per cent. 1927 Loan	21,188 25
Sept. 4	General	17,000 00	W. Md. 6 per cent. r'g'd bonds (3ds).	19,082 50
" 10	W. Md. Ter. Co	3,500 00	Pub. Imp't 3½ per cent. 1940 Loan	3,500 00
" 10	W. Md. 1925 Loan	5,500 00	" 3½ " 1940 "	5,500 00
" 10	W. Md. 1927 Loan	4,500 00	" 3½ " 1940 "	4,500 00
" 10	Water 1926 Loan	50,000 00	" 3½ " 1940 "	50,000 00

Sept.	10	Pratt Library.....	22,900	00	Pub. Imp't	3½	per cent.	1940	Loan..	22,900 00
"	10	Public Imp't Loan..	26,500	00	"	3½	"	1940	" ..	26,500 00
"	10	Horwitz Benev. F'nd	800	00	"	3½	"	1940	" ..	800 00
"	10	Hillen Station.....	10,000	00	"	3½	"	1940	" ..	10,000 00
"	10	Internal Imp't Loan	76,300	00	"	3½	"	1940	" ..	76,300 00
"	20	Internal Imp't Loan	11,300	00	W. Md.	3¼	per cent.	1927	Loan...	11,130 50
"	21	Water 1926 Loan...	10,000	00	"	3¼	"	1927	" ...	9,850 00
"	21	Public Imp't Loan..	5,000	00	"	3¼	"	1927	" ...	4,925 00
"	22	General.....	15,000	00	"	3¼	"	1927	"	14,775 00
"	27	Public Imp't Loan..	4,000	00	"	3¼	"	1927	" ...	3,940 00
"	27	General.....	15,300	00	"	3¼	"	1927	" ...	15,070 50
			$1,158,500	00						$1,181,976 87

STATEMENT No. 2—Concluded.

RECAPITULATION.

Sinking Fund.	Amount Purchased.	Description of Stock.	Amount Paid.
General	$11,400 00	Six per cent. loans	$ 12,967 50
"	831,500 00	Five per cent. loans	851,798 62
"	32,400 00	Three and one-quarter pr ct. loans	31,919 25
"	400 00	Three per cent. loans	385 00
"	21,000 00	W. Md. Third Mtg. Guar't'd. Bds.	23,512 50
Internal Improvement Loan	33,200 00	Three and one-quarter pr ct. loans	32,318 75
" " "	76,300 00	Three and one-half pr ct. loans	76,300 00
Western Md. R. R. Ter. Co.	3,500 00	Three and one-half pr ct. loans	3,500 00
Hillen Station	1,400 00	Six per cent. loans	1,607 50
" "	10,000 00	Three and one-half pr ct. loans	10,000 00
Horwitz Benevolent Fund	300 00	Five per cent. loans	360 00
" " "	800 00	Three and one-half pr ct. loans	800 00
Water 1926 Loan	4,000 00	Six per cent. loans	4,400 00
" " "	3,900 00	Five per cent. loans	3,992 75
" " "	50,000 00	Three and one-half pr ct. loans	50,000 00
" " "	10,000 00	Three and one-quarter pr ct. loans	9,850 00
Western Maryland 1925 Loan	5,500 00	Three and one-half pr ct. loans	5,500 00

Western Maryland 1927 Loan	4,500 00	Three and one-half pr ct. loans...	4,500 00
Pratt Library	22,900 00	Three and one-half pr ct. loans...	22,900 00
Public Improvement Loan. .	26,500 00	Three and one-half pr ct. loans...	26,500 00
" " " ...	9,000 00	Three and one-quarter pr ct. loans	8,865 00
	$1,158,500 00		$1,181,976 87

STATEMENT No. 3.

Condition of Sinking Funds December 31, 1894.

General Sinking Fund:		
Park Improvement 6 per cent. 1895 Loan.....		$92,158 80
Patterson Park 4 per cent. 1920 Loan.....	$5,000 00	
Harford Run 4 per cent. 1904 Loan.....	1,700 00	
		6,700 00
Consolidated 3½ per cent. 1930 Loan.....		78 52
Western Maryland Railroad 3¼ per cent. 1927 Loan..		30,300 00
Paving Certificates due in 1895.....		23,050 37
Union Railroad 6 per cent. First Mortgage Bonds..		87,500 00
Western Maryland Railroad 6 per cent. First Mortgage Bonds.....		43,500 00
Western Maryland Railroad (registered) 6 per cent. Third Mortgage Bonds..		17,000 00
Amt. carried forward...		$300,287 69

STATEMENT No. 3—Continued.

Amt. brought forward..		$300,287 69
Western Maryland Railroad 6 per cent. Second Preferred Mortgage Bonds.		178,500 00
Western Maryland Railroad Funding Certificates.. ..		226,530 00
Western Maryland Railroad Unendorsed Coupons off First Mortgage Bonds..		71,742 00
Hillen Station Property...	200,000 00	
Less amount of sinking fund for the repayment of cost thereof.... ...	52,577 51	
		147,422 49
Western Maryland Railroad Terminal Company Depot Property.....	131,163 81	
Less amount of sinking fund for the repayment of cost thereof....	17,959 44	
		113,204 37
Due by Baltimore & Ohio Railroad Company on account of purchase of Pittsburgh & Connellsville Railroad Bonds, under Ordinance No. 47 of 1875		240,000 00
Amt. carried forward...		$1,277,686 55

STATEMENT No. 3—Continued.

Amt. brought forward..		$1,277,686 55
Ground rents purchased under Ordinance No. 81 of 1881		277,485 27
Cash		110,927 85
		$1,666,099 67
Public Park Sinking Fund:		
Cash		$24,499 48
W. Md. R. R. 1925 *Loan Sinking Fund:*		
City Hall 6 per cent. 1900 Loan	$ 3,300 00	
City Hall 6 per cent. 1902 Loan	2,700 00	
Funding 6 per cent. 1900 Loan	2,800 00	
Western Maryland Railroad 6 per cent. 1902 Loan	2,600 00	
Jones Falls 6 per cent. 1900 Loan	100 00	
		11,500 00
Western Maryland Railroad 6 per cent. Third Mortgage Bonds		500 00
Amt. carried forward...		$12,000 00

STATEMENT No. 3—Continued.

Amt. brought forward..		$12,000 00
Water 5 per cent. 1916 Loan		6,100 00
Western Maryland Railroad 4 per cent. 1925 Loan		21,800 00
Jones Falls $3\frac{65}{100}$ per cent. 1900 Loan		800 00
Consolidated $3\frac{1}{2}$ per cent. 1930 Loan	11,900 00	
Public Improvement $3\frac{1}{2}$ per cent. 1940 Loan	7,500 00	
		19,400 00
Cash		443 92
		$ 60,543 92
W. Md. R. R. 1927 *Loan Sinking Fund:*		
City Hall 6 per cent. 1900 Loan	$700 00	
City Hall 6 per cent. 1902 Loan	400 00	
Funding 6 per cent. 1900 Loan	700 00	
Jones Falls 6 per cent. 1900 Loan	3,000 00	
Amt. carried forward..	$4,800 00	

STATEMENT No. 3—Continued.

Amt. brought forward.	$4,800 00	
Western Maryland Railroad 6 per cent. 1902 Loan	1,500 00	
		6,300 00
Western Maryland Railroad 6 per cent. Third Mortgage Bonds		4,500 00
Water 5 per cent. 1916 Loan		3,700 00
Western Maryland Railroad 3¼ per cent. 1927 Loan		100,700 00
Consolidated 3½ per cent. 1930 Loan		1,700 00
Public Improvement 3½ per cent. 1940 Loan		8,500 00
Cash		230 52
		$125,630 52
Hillen Station Sinking Fund:		
City Hall 6 per cent. 1900 Loan	$2,900 00	
Western Maryland Railroad 6 per cent. 1902 Loan	5,700 00	
Funding 6 per cent. 1900 Loan	1,000 00	
Amt. carried forward...	$9,600 00	

STATEMENT No. 3—Continued.

Amt. brought forward..	$9,600 00	
Jones Falls 6 per cent. 1900 Loan.....	2,800 00	
Park Improvement 6 per cent. 1895 Loan.....	1,000 00	
City Hall 6 per cent. 1902 Loan.....	300 00	
		$13,700 00
Western Maryland Railroad 6 per cent. Third Mortgage Bond.....		500 00
Jones Falls 5 per cent. 1900 Loan.....	8,000 00	
Funding 5 per cent. 1916 Loan.....	1,900 00	
Water 5 per cent. 1916 Loan.....	4,100 00	
		14,000 00
Paving 4 per cent. 1920 Loan.....		3,000 00
Jones Falls 3.65 per cent. 1900 Loan		3,200 00
Consolidated 3½ per cent. 1930 Loan.....	4,700 00	
Public Improvement 3½ per cent. 1940 Loan....	12,000 00	
		16,700 00
Cash.....		1,477 51
		$52,577 51

STATEMENT No. 3—Continued.

Western Maryland Railroad Terminal Company Sinking Fund:		
City Hall 6 per cent. 1900 Loan	$1,000 00	
City Hall 6 per cent. 1902 Loan	100 00	
Western Maryland Railroad 6 per cent. 1902 Loan	1,100 00	
Funding 6 per cent 1900 Loan	1,000 00	
Jones Falls 6 per cent. 1900 Loan	1,200 00	
		4,400 00
Western Maryland Railroad 6 per cent. Third Mortgage Bonds		1,000 00
Water 5 per cent. 1916 Loan		2,600 00
Consolidated 3½ per cent. 1930 Loan	3,300 00	
Public Improvement 3½ per cent. 1940 Loan	5,000 00	
		8,300 00
Jones Falls 3.65 per cent. 1900 Loan		900 00
Cash		759 44
		$17,959 44

STATEMENT No. 3—Continued.

Water 1926 *Loan Sinking Fund:*		
City Hall 6 per cent. 1900 Loan	$11,800 00	
City Hall 6 per cent. 1902 Loan	3,400 00	
Funding 6 per cent. 1900 Loan	17,200 00	
Jones Falls 6 per cent. 1900 Loan	5,000 00	
Park Improvement 6 per cent. 1895 Loan	2,700 00	
Western Maryland Railroad 6 per cent. 1902 Loan	2,300 00	
		$42,400 00
Water 5 per cent. 1916 Loan	15,200 00	
Jones Falls 5 per cent. 1900 Loan	100 00	
		15,300 00
Consolidated 3½ per cent. 1930 Loan	31,600 00	
Internal Improvement 3½ per cent. 1928 Loan	8,700 00	
Public Improvement 3½ per cent. 1940 Loan	55,000 00	
		95,300 00
Amt. carried forward		$153,000 00

STATEMENT No. 3—Continued.

Amt. brought forward..		$153,000 00
Western Maryland Railroad 3¼ per cent. 1927 Loan		22,200 00
Cash		9,613 73
		$184,813 73
Internal Improvement 1928 *Loan Sinking Fund:*		
Jones Falls 6 per cent. 1900 Loan	$20,700 00	
Funding 6 per cent. 1900 Loan	9,800 00	
City Hall 6 per cent. 1900 Loan	12,600 00	
City Hall 6 per cent. 1902 Loan	5,400 00	
Park Improvement 6 per cent. 1895 Loan	865 00	
Western Maryland Railroad 6 per cent. 1902 Loan	11,700 00	
		$61,065 00
Water 5 per cent. 1916 Loan	48,300 00	
Funding 5 per cent. 1916 Loan	8,900 00	
Amts. carried forward..	$57,200 00	$61,065 00

STATEMENT No. 3—Continued.

Amts. brought forward.	$57,200 00	$61,065 00
Jones Falls 5 per cent. 1900 Loan	1,200 00	
		58,400 00
Harford Run 4 per cent. 1920 Loan	7,700 00	
Western Maryland Railroad 4 per cent. 1925 Loan	19,600 00	
Water 4 per cent. 1926 Loan	1,100 00	
		28,400 00
Jones Falls 3.65 per cent. 1900 Loan		7,500 00
Internal Improvement 3½ per cent. 1928 Loan	43,300 00	
Consolidated 3½ per cent. 1930 Loan	8,000 00	
Public Improvement 3½ per cent. 1940 Loan	86,300 00	
		137,600 00
Western Maryland Railroad 3¼ per cent. 1927 Loan		73,000 00
Cash		27,631 48
		$393,596 48

STATEMENT No. 3—Concluded.

Public Improvement Loan Sinking Fund:	
Public Improvement 3½ per cent. 1940 Loan....	$26,500 00
Western Maryland Railroad 3¼ per cent. 1927 Loan.....	9,000 00
Cash.....	22,420 58
	$57,920 58

RECAPITULATION.

General Sinking Fund.....	$1,666,099 67
Public Park Sinking Fund.....	24,499 48
Western Maryland 1925 Loan Sinking Fund	60,543 92
Western Maryland 1927 Loan Sinking Fund	125,630 52
Hillen Station Sinking Fund.....	52,577 51
Western Maryland Railroad Terminal Company Sinking Fund.....	17,959 44
Water 1926 Loan Sinking Fund.....	184,813 73
Internal Improvement Loan Sinking Fund	393,596 48
Public Improvement Loan Sinking Fund.	57,920 58
	$2,583,641 33

STATEMENT No. 4.

Condition of the Enoch Pratt Free Library Sinking Fund, held in trust by the Commissioners of Finance, as per Ordinance No. 64, of 1883, on December 31, 1894.

Funding 6 per cent. 1900 Loan	$16,900 00	
City Hall 6 per cent. 1900 Loan	35,700 00	
City Hall 6 per cent. 1902 Loan	6,500 00	
Western Maryland Railroad 6 per cent. 1902 Loan	21,300 00	
Park Improvement 6 per cent. 1895 Loan	700 00	
Jones Falls 6 per cent. 1900 Loan	11,300 00	
		$92,400 00
Western Maryland Railroad 6 per cent Third Mortgage Guaranteed Bonds (registered)		$10,000 00
Water 5 per cent. 1916 Loan	54,300 00	
Funding 5 per cent. 1916 Loan	2,500 00	
Amts. carried forward..	$56,800 00	$102,400 00

STATEMENT No. 4—Concluded.

Amts. brought forward.	$56,800 00	$102,400 00
Jones Falls 5 per cent. 1900 Loan	81,200 00	
		138,000 00
Paving 4 per cent. 1920 Loan	62,300 00	
Patterson Park 4 per cent. 1920 Loan.	195,000 00	
Water 4 per cent. 1922 Loan	500,000 00	
Western Maryland Railroad 4 per cent. 1925 Loan	2,100 00	
Harford Run 4 per cent. 1920 Loan	900 00	
Water 4 per cent. 1926 Loan	1,000 00	
		761,300 00
Consolidated 3½ per cent. 1930 Loan	113,200 00	
Internal Improvement 3½ per cent. 1928 Loan	13,200 00	
Public Improvement 3½ per cent. 1940 Loan	42,000 00	
		168,400 00
Western Maryland Railroad 3¼ per cent. 1927 Loan		4,000 00
Cash		238 14
		$1,174,338 14

STATEMENT No. 5.

Condition of Horwitz Benevolent Fund, held by the Commissioners of Finance in trust, as per Resolution No. 7, 1888, on December 31, 1894.

Funding 6 per cent. 1900 Loan..	$1,800 00	
City Hall 6 per cent. 1900 Loan.	1,300 00	
Western Maryland Railroad 6 per cent. 1902 Loan.....	5,300 00	
Jones Falls 6 per cent. 1900 Loan.....	200 00	
		$8,600 00
Water 5 per cent. 1916 Loan....		400 00
Western Maryland Railroad 4 per cent. 1925 Loan.....		300 00
Jones Falls $3\frac{65}{100}$ per cent. 1900 Loan.....		100 00
Public Improvement $3\frac{1}{2}$ per cent. 1940 Loan.....		1,300 00
Western Maryland Railroad $3\frac{1}{4}$ per cent. 1927 Loan.....		200 00
Cash.....		66 84
		$10,966 84

STATEMENT No. 6.

A Schedule of Real Estate and Ground Rents upon the books of the Commissioners of Finance.

Lessees.	Location of Lots.	Annual Rental.
Swain & Banks	Nos. 9, 10, 11 and 12 President street	$ 452 25
C. S. Maltby Co.	Nos. 24, 25, 26, 27, 28 and 29 south side of Block street	910 88
C. S. Maltby Co.	Nos. 5, 6, 7 and 8 north side of Block street	293 60
Sisters of Mercy	Calvert-street Spring Lot	1,000 00
Baltimore and Philadelphia Steamboat Co	200 feet Pratt-street Wharf	3,600 00
Platt & Co	Old Fish House property, south side of Basin	1,457 00
John G. Huck	Light and Weyler streets	75 70
E. B. Hunting & Co	Nos. 5, 6, 7 and 8 President street	502 50
George Hickman	Fayette and Arch streets	52 00
Boys' Home Society	Pleasant and Calvert streets	50 00
James Clark & Co	Old City Yard property	497 25
Baltimore Dredging Co	" "	480 00
Sarah A. Vogt	Battery avenue	157 50
Sophia M. Kelly	Nos. 21, 23 and 25 Weyler street	150 00
Aaron Hess	No. 27 Weyler street	33 60

John F. Weyler	No. 28 Weyler street		19 20
James Baumgarten	No. 29 "		26 32
William Kleinhenn	No. 30 "		26 32
Mrs. Ida Young	Nos. 31 and 32 Weyler street		52 64
Charles N. Oehm	No. 33 Weyler street		26 32
H. Klasmeier	No. 34 "		25 48
Catherine Karch	No. 35 "		26 32
Mary A. Steen	Nos. 37 and 38 Weyler street		52 64
Frederick Kull	No. 39 Weyler street		19 20
George Wimmer	No. 40 "		20 32
Snellenberg & Co	Nos. 41 and 42 Weyler street		54 49
J. A. J. Goetze	No. 43 Weyler street		29 60
F. Schott	No. 49 "		26 32
Aug. Pfeil	No. 45 "		29 60
Aug. Pfeil	Light and Weyler streets		78 06
			$10,225 11

Purchased by authority of Ordinance No. 81, *of* 1881.

Baltimore Belt Railroad Co.	Park avenue, near Preston street	$549 00	
Mayor and City Council	Hollins and Monroe streets	750 00	
" "	Howard and Little Montgomery sts.	120 00	
" "	Park avenue and Roberts streets	86 00	
	Amounts carried forward	$1,505 00	$10,225 11

STATEMENT No. 6—Concluded.

Lesses.	Location of Lots.		Annual Rental.
	Amounts brought forward.....	$1,505 00	$10,225 11
Mayor and City Council	Old Frederick rd. and Fairview ave.	360 00	
" " "	Waesche street, near Fremont ave..	480 00	
" " "	Castle street..... ...	209 25	
" " "	Hanover and Lee streets.....	210 00	
" " "	Sharp and West streets.....	570 00	
" " "	Argyle avenue, near Lanvale street.	120 00	
" " "	Hull and Clement streets.....	350 00	
" " "	Linden avenue and Wilson street...	840 00	
" " "	Charles and Ostend streets.....	372 50	
" " "	Ann and Chase streets.....	501 75	
" " "	Howard, opposite Centre street....	1,000 00	
" " "	Preston and Eden streets.....	80 00	
" " "	Broadway and Bank street.....	200 00	
" " "	Mosher and Gilmor streets.....	757 00	
" " "	Monument and Chester streets.....	1,200 00	
" " "	Collington square.....	960 00	
" " "	Perkins Spring.....	2,052 00	

Mayor and City Council	Riverside Park	3,770 62	
" " "	Holliday and Fayette streets.....	56 00	
" " "	Lexington and Paca streets.....	228 00	
" " "	Bond and Chew streets	130 00	
			$15,952 12
	(Purchased at a cost of $277,235.27.)		
			$26,177 23

STATEMENT No. 7.

Statement of Funded and Guaranteed Debt.

Name of Loan.	Rate.	When Redeemable.	Amount.
Water	5 per cent.	At pleasure after July 1, 1916	$5,000,000 00
"	4 "	" " " Nov. 1, 1922	500,000 00
"	4 "	" " " Nov. 1, 1926	1,000,000 00
Funding	6 "	" " " July 1, 1900	800,000 00
"	5 "	" " " July 1, 1916	1,000,000 00
Harford Run	4 "	" " " Jan. 1, 1920	250,000 00
Paving	4 "	" " " Nov. 1, 1920	500,000 00
Consolidated	3½ "	" " " July 1, 1930	5,000,000 00
Park Improvement	6 "	January 1, 1895	185,723 80
Jones Falls	6 "	April 9, 1900	800,000 00
"	5 "	" 9, 1900	957,000 00
"	3 6/10 "	" 9, 1900	483,000 00
"	3½ "	" 9, 1900	160,000 00
"	3 "	" 9, 1900	100,000 00
City Hall	6 "	March 15, 1900	1,000,000 00
"	6 "	" 7, 1902	500,000 00

Western Maryland Railroad	6 per cent.	January 1, 1902	1,000,000 00
" " "	4 "	" 1, 1925	684,000 00
" " "	3¼ "	" 1, 1927	1,704,000 00
Internal Improvement	3½ "	July 1, 1928	4,850,000 00
Public Improvement	3½ "	January 1, 1940	2,732,400 00
Harford Run	4 "	November 3, 1904	350,000 00
Patterson Park	4 "	October 1, 1920	200,000 00
McDonogh Extension	5 "	September 1, 1916	280,000 00
Overdue Stock	6 "	No interest allowed	482 00
Water, 1875	6 "	" " "	540 00
One Million, 1886	6 "	" " "	630 50
Consolidated, 1890	6 "	" " "	15,262 48
Five Million, 1890	6 "	" " "	2,086 79
Consolidated, 1893	6 "	" " "	300 00
Exempt, 1893	6 "	" " "	3,000 00
Water, 1894	5 "	" " "	76,200 00
			$30,134,625 57

GUARANTEED DEBT.

Western Maryland Railroad 6 per cent. Third Mortgage Bonds	$875,000 00	
Union Railroad 6 per cent. First Mortgage Bonds	117,000 00	
		$992,000 00
		$31,126,625 57

STATEMENT No. 8.

Balance Sheet of Sinking Funds Ledger December 31, 1894.

	Dr.	Cr.
General Sinking Fund....		$110,927 85
Public Park Sinking Fund.		24,499 48
Western Maryland Railroad 1925 Loan Sinking Fund.....		443 92
Western Maryland Railroad 1927 Loan Sinking Fund.....		230 52
Water 1926 Loan Sinking Fund		9,613 73
Western Maryland Railroad Terminal Company Sinking Fund.....		759 44
Hillen Station Sinking Fund.....		1,477 51
Public Improvement 1940 Loan Sinking Fund....		22,420 58
Internal Improvement 1928 Loan Sinking Fund.		27,631 48
Four Million 1945 Loan Sinking Fund.....	$ 486 12	
Horwitz Benevolent Fund.		66 84
Pratt Library Sinking Fund		238 14
Redemption of Five Million 1890 Loan.....		2,086 79
Balance.....	199,910 16	
	$200,396 28	$200,396 28

STATEMENT No. 9.

Indebtedness of the Western Maryland Railroad Company to the Mayor and City Council of Baltimore, December 31, 1894.

First Mortgage Bonds held by Commissioners of Finance	$43,500 00	
Interest thereon from July 1, 1892	6,525 00	
		$50,025 00
Second preferred Mortgage Bonds held by the Commissioners of Finance	$178,500 00	
Interest thereon from July 1, 1892	26,775 00	
		205,275 00
Accrued interest on Second Mortgage Bonds, redeemed January 1, 1887		333,000 00
Third Mortgage endorsement	$875,000 00	
Interest thereon to December 31, 1894	1,260,000 00	
		2,135,000 00
Fourth Mortgage, to secure loan of city stock	$1,000,000 00	
Amounts carried forward	$1,000,000 00	$2,723,300 00

STATEMENT No. 9—Continued.

Amounts brought forward.	$1,000,000 00	$2,723,300 00
Interest thereon to December 31, 1894	1,350,000 00	
		2,350,000 00
Fifth Mortgage, to secure loan of city stock	$1,704,000 00	
Interest thereon from July 1, 1892	138,450 00	
		1,842,450 00
Loan of city stock under Ordinance No. 71 of 1882.	$684,000 00	
Interest thereon from July 1, 1892	68,400 00	
		752,400 00
Funding Certificates, being amount of Matured Coupons of First and Second Preferred Mortgage Bonds, funded under Ordinance No. 22, of 1879	$226,530 00	
Interest thereon from January 1, 1892	40,775 40	
		267,305 40
Coupons from First Mortgage unendorsed Bonds	$71,742 00	
Amounts carried forward.	$71,742 00	$7,935,455 40

STATEMENT No. 9—Concluded.

Amounts brought forward.	$71,742 00	$7,935,455 40
Interest thereon to December 31, 1891.....	69,511 69	
		141,253 69
		$8,076,709 09
Less:		
Value of Western Maryland Railroad 1925 Loan Sinking Fund.....	$60,543 92	
Value of Western Maryland Railroad 1927 Loan Sinking Fund.....	125,630 52	
		186,174 44
		$7,890,534 65

Name of Issue.	Rate Per Annum.	When Payable.	Where Payable.
City Hall Loan, 1900	6 per cent.	Jan., April, July and Oct.	Nat. Farm. & Plant. Bank
" " 1902	6 "	" " "	" " "
Funding " 1900	6 "	" " "	" " "
Western Maryland Railroad Loan, 1927	$3\frac{1}{4}$ "	January and July	" " "
Consolidated Loan, 1930	$3\frac{1}{2}$ "	" "	" " "
Patterson Park Extension Loan, 1920	4 "	Jan., April, July and Oct.	Nation'l Mechanics' B'nk
Park Improvement Loan, 1895	6 "	" " "	" " "
Jones Falls " 1900	6 "	Feb., May, Aug. and Nov.	" " "
" " 1900	5 "	" " "	" " "
" " 1900	$3\frac{65}{100}$ "	" " "	" " "
" " 1900	$3\frac{1}{2}$ "	" " "	" " "
" " 1900	3 "	" " "	" " "
Western Maryland Railroad Loan, 1902	6 "	January and July	" " "

W. M. R. R. Loan, 1925	4 per cent.	January and July	Nation'l Mechanics' B'nk
Harford Run Improvem'nt Loan, 1920	4 "	" "	" " "
Completion of Harf'd Run Improvement Loan, 1904	4 "	" "	" " "
Paving Loan, 1920	4 "	May and November	" " "
Water " 1916	5 "	" "	" " "
" " 1922	4 "	" "	" " "
" " 1926	4 "	" "	" " "
Funding " 1916	5 "	" "	" " "
Internal Imp't Loan, 1928	3½ "	January and July	Farm. & Mer. Nat. Bank.
Public Imp't " 1940	4 "	" "	Merchants' Nation'l Bank

GUARANTEES.

Name of Issue.	Rate Per Annum.	When Payable.	Where Payable.
Western Maryland Railroad Company's Bonds	6 per cent.	January and July	Nation'l Mechanics' B'nk
Union Railroad Company's Bonds	6 "	" "	Franklin Bank.

ANNUAL REPORT

OF THE

CITY COMPTROLLER

TO THE

Mayor and City Council of Baltimore,

FOR THE

FISCAL YEAR ENDING DECEMBER 31, 1894.

REPORT.

DEPARTMENT OF THE CITY COMPTROLLER,

BALTIMORE, January 1, 1895.

To the Honorable the Mayor
and City Council of Baltimore:

GENTLEMEN:

I have the honor of presenting herewith the report of the City Comptroller's Department for the year ending December 31, 1894.

STATEMENT OF RECEIPTS.

From the City Collector, on account of the tax levy for 1894	$3,583,581 21	
From the City Collector, on account of taxes in arrears	1,322,969 54	
From the City Collector, on account of interest on taxes in arrears	33,466 51	
From the City Collector, on account of opening and closing streets and alleys.	82,477 24	
From the City Collector, on account of paving streets.	5,223 14	
		$5,027,717 6

From market rents and licenses	$ 51,459	85
" rent of public halls	601	00
" wharfage by Harbor Masters	27,389	96
" the Park Board, account of the several parks	225,804	35
" the Jail Visitors for board of prisoners and sale of refuse	6,877	40
" the County Commissioners of several counties for cases removed and tried in the city courts	1,618	14
" the Water Board, for rents, etc	754,005	87
" the Pound Master, from the sale of dogs	280	99
" ground rents due by sundry parties	286	00
" the Trustees of Bay View Asylum for board of inmates	1,454	24
" the Health Department, from sale of virus	25	00
" Quarantine Hospital fees	5,614	13
" the Commissioners of Street Cleaning, for sale of dirt	679	17
" the Park Board, account of Harlem Park	3,996	94
" the Park Board, account of Eutaw Squares, 1st division	1,800	00
" the Park Board, account of Eutaw Squares, 2d division	2,000	00
" the Park Board, account of Madison Square	2,663	48

From the Park Board, account of Lafayette Square	$	1,944 99
" the Park Board, account of Perkins Spring Square		1,800 00
" the Park Board, account of Fulton avenue Squares and Baker Circle		3,497 00
" the Park Board, account of Union Square		1,729 86
" the Park Board, account of Broadway Squares, 1st division		1,999 93
" the Park Board, account of Broadway Squares, 2d divisions		1,799 95
" the Park Board, account of Broadway Squares, 3d division		3,000 00
" the Park Board, account of Franklin Square		1,500 00
" the Park Board, account of Mt. Vernon Squares		1,600 00
" the Park Board, account of Park Place Squares		607 85
" the Park Board, account of Ashland Square		129 67
" the Park Board, account of Mt. Royal Avenue Squares		2,984 38
" the Park Board, account of Jackson Square		1,189 51
" the Park Board, account of Taney Place Squares		298 58

From the Park Board, account of Wilkens Avenue Squares	$2,464	07
" the Park Board, account of Eastern Fountain	1,485	10
" sundry parties, injury to street lamps	460	00
" permits and advertising, for erecting sheds, &c	11,032	00
" the Harbor and River Relief Board, account of ice-boats	1,713	94
" sundry parties, account judgments and suits	38	55
" the City Commissioner, for repairs of paved streets	252	98
" the City Commissioner, for repairs of bridges	9	32
" the City Commissioner, for repairs of sewers	3,780	55
" the City Commissioner, for removing iron railings, Prospect Park.	16	00
" the City Commissioner, for repairing Block Street Drawbridge	14	63
" the Water Board, account building North Avenue Bridge	9,000	00
" the sale of tickets for transportation of poor	162	88
" auctioneer, for State tax on sales	8,368	72
" the City Librarian, for sale of codes and ordinances	114	85

From licenses, for wagons, carts, billiards, &c	$ 64,672	14
" sundry parties, account temporary loans	3,975,651	00
" the Fire Commissioners, for sale of refuse	247	90
" magistrates, for violation of City ordinance	6,635	42
" the City Commissioner, for account of advertising	78	00
" direct tax, in the annex	174,632	24
" interest in the annex	4,768	84
" the State Treasury, for liquor licenses	403,985	78
" sundry parties, difference in board of insane patients	1,305	00
" State tax on City loans	7,947	25
" the inspection of gas meters	2,472	75
" tax sales for the redemption of property previously sold for taxes	3,247	77
" the Commissioners of Finance for purchase of land for park perposes	40,816	12
" the City Register, account of unclaimed damages	591	66
" the Chesapeake and Potomac Telephone Company, on account of conduits	4,635	80

From rent of Court House property.....	$ 220	00
" wharfage, sixth district.....	100	00
" turnpike dividends.....	156	66
" City seals.....	6	50
" rent of fence, Fayette, Saint Paul and Calvert Streets.....	172	50
" damages to the Baltimore City College.....	22,500	00
" the City Commissioner, sale old materials 1928 loan.....	1,115	00
" the City Commissioner, sale old material 1940 loan.....	4,827	69
" the Topographical Survey.....	77	80
" the sale of Public Improvement 1940 stock.....	991,075	72
" the Park Board, interest on public park loan.....	8,000	00
" the Water Board, interest on water loans.....	411,315	00
" the Western Maryland Railroad, interest on loans.....	124,110	00
" the Commissioners of Finance.....	114,591	68
" the State of Maryland, for city's proportion of public school tax,	214,726	14
" the Secretary of School Board, for use of books, &c.....	4,057	45
" J. F. Plummer, interest on legacy to public schools.....	114	50

From Brush Electric Company, for interest	$ 19 49
" Western Maryland Railroad Company, for interest	796 61
" Mercantile Trust and Deposit Company, for interest	1,379 15
" damages and expenses for opening and closing streets and alleys	145,749 88
Balance in hands of the City Register January 1, 1894	572,381 54
	$13,486,450 52

STATEMENT OF DISBURSEMENTS.

For cleaning and repairs of markets	$ 4,610 35
" cleaning and repairs of public halls	203 00
" Criminal Court	67,010 22
" Superior Court	14,729 38
" Baltimore City Court	12,868 20
" Court Common Pleas	13,790 23
" Circuit Court	4,238 25
" Circuit Court, No. 2	2,945 85
" Orphans' Court	7,856 15
" Magistrates	16,441 02
" Judgments and suits	4,841 52
" Police Department	805,550 00
" expenses of the Supervisors of Elections	11,982 11
" registration	38,639 94

For expenses and incidentals of the City Council	$ 58,202	50
" expenses of the Jail	54,110	31
" elections	15,821	50
" Public Schools, salaries & incidentals.	973,825	25
" Water Board	739,398	25
" ground-rents due by the City	43,185	02
" the Dog Pound	1,263	80
" interest on loans and discount on taxes	172,426	43
" Patterson Park extension	55	28
" Liberty street triangle	185	27
" Park Board	224,691	81
" Harlem Park	3,999	63
" Eutaw Squares, 1st division	1,800	00
" Eutaw Squares, 2d division	1,999	99
" Madison Square	2,799	66
" Lafayette Square	1,994	06
" Perkins Spring Square	1,799	90
" Fulton Avenue Squares and Baker Circle	3,499	39
" Union Square	1,734	08
" Broadway Squares, 1st division	1,864	75
" Broadway Squares, 2d division	1,799	92
" Broadway Squares, 3d division	2,999	97
" Franklin Square	1,499	52
" Bayview Asylum	104,998	61
" Health, salaries	39,300	00
" Health, general	18,242	39

For nuisances	$ 14,926	96
" Quarantine Hospital	19,889	24
" cleaning streets	290,187	24
" harbor	34,314	38
" ice-boats	23,649	66
" repairs of wharves	2,455	29
" removing ashes from tow-boats	1,454	86
" widening mouth of the harbor	3,312	27
" dredging Jones' Falls	15,000	00
" City Collector, expenses of office	58,929	27
" Appeal Tax Court	1,191	98
" gas	141,878	27
" gasoline	6,539	01
" electric lights	133,285	94
" lamplighters, salaries	47,930	03
" Inspector of Buildings	6,200	00
" repairs of Public Schools	21,497	65
" " " city property	18,361	75
" permits for sheds, etc	355	76
" cleaning cesspools	689	00
" new roof on the City Jail	17,935	83
" building No. 17 Engine House	12,500	00
" building disinfecting plant at Quarantine	13,008	02
" extra help, Inspector of Buildings	5,800	00
" winding clocks in engine houses	200	00
" rental of auxiliary fire alarm boxes	4,300	00
" sanitary and other improvements	3,975	90
" painting buildings at Quarantine	1,495	55

For building No. 19 Engine House	$	13,294 87
" building No. 10 Hook and Ladder House		8,764 23
" cleaning Battle Monument		435 00
" extension of shed at Lafayette Market		2,486 35
" purchase of lot and building Primary School, South Baltimore		6,703 10
" building addition to Colored Manual Training School		600 00
" repairs, paved streets		89,982 50
" " bridges		7,316 72
" " sewers		6,645 18
" Light-Street Bridge		7,468 26
" salaries of the City Commissioner's office		10,613 40
" flag and stepping stones		3,092 26
" cross streets		4,933 52
" improvement Harford run		201 14
" repairs unpaved streets		4,928 28
" building Douglas-street bridge		382 09
" paving city property		793 51
" iron plates, various places		63 24
" inlets, McKim and Eager streets		332 45
" grading Lanvale and other streets		380 00
" iron plates		243 76
" trapping inlets, Pennsylvania avenue and Pearl street		382 83
" inlets various places, deficiency		114 36

For	repairing Eutaw place, deficiency...	$ 6,088 25
"	repairing Madison street, deficiency	182 52
"	paving Hanover street, deficiency...	1,709 43
"	paving streets around Northeast market.....	1,703 20
"	shelling Leadenhall street.....	265 36
"	inlets, Carey and Franklin streets...	1,049 33
"	board-walk, Marshall avenue.....	947 27
"	grading McCulloh street.....	402 50
"	removing iron railing, Prospect Park	149 83
"	changing gutter, Canton avenue.....	764 53
"	inlets, Monument street and Central avenue.....	1,100 00
"	grading Monroe street.....	5,584 69
"	macadamizing Park Heights avenue	2,993 63
"	repairing Block-street drawbridge...	3,968 69
"	draining property on Light street...	200 00
"	inlets, West and Race streets.....	958 36
"	building North avenue bridge, special	6,174 84
"	kerbing Park avenue.....	91 60
"	Mayoralty.....	2,429 34
"	transportation of poor.....	997 96
"	Superintendent City Hall.....	16,786 94
"	City Librarian.....	6,954 28
"	refunded taxes.....	3,652 00
"	expenses of the Court House and Record Office.....	5,301 50
"	expenses of the City and Circuit Court buildings.....	4,460 68

For general licenses	$ 828	12
" general expense	1,438	54
" expenses of the Fire Department	349,781	29
" fire-alarm boxes destroyed by electric wires	1,605	55
" fire-alarm boxes, various places	1,000	00
" fines remitted by the Mayor	923	50
" public printing	4,401	20
" Liquor License Commissioners	14,728	51
" removal of garbage	9,500	00
" temporary loans	3,491,943	33
" pension to W. H. War	485	00
" Sewerage Commission	2,572	92
" Permanent Water Supply	3,397	60
" gas, Annex	16,640	74
" gasoline, Annex	6,902	51
" electric lights, Annex	484	75
" lamplighters salaries, Annex	13,845	69
" Fire Department, Annex	45,515	61
" cleaning streets, Annex	24,474	89
" nuisances, Annex	2,743	49
" health, salaries, Annex	3,800	00
" repairs streets and roads, Annex	22,422	29
" public schools, Annex	136,490	77
" Inspector Buildings, livery, Annex	300	00
" extra help, Inspector Buildings, Annex	1,240	00
" repairs City property, Annex	5,674	93
" Smead System, No. 9 School, Annex,	2,000	00

For Smead System, Walbrook School, Annex	$ 2,934	00
" City Collector, Annex	3,499	92
" interest, Annex	3,284	25
" refunded taxes, Annex	46	96
" macadamizing Franklin Street, Annex	90	00
" fire plugs at Carroll, Annex	250	00
" repairing bridges, Twenty-first Ward, Annex	2,491	25
" special assessment, taxes in the Annex	1,046	98
" repairing 9th street, Annex	3,493	98
" purchase of lot for engine house, North avenue and Tenth street, Annex	1,502	80
" macadamizing Garrison lane, Annex,	996	70
" Mount Vernon Squares	1,600	00
" Park Place Squares	895	67
" Ashland Square	135	06
" Mount Royal Avenue Squares	2,908	96
" Jackson Square	1,199	73
" Taney Place Squares	287	35
" Wilkens Avenue Squares	2,499	62
" Eastern Fountain	1,438	15
" House of Refuge	20,000	00
" House of Reformation	12,000	00
" Mount Hope Retreat	33,000	00
" Maryland Hospital for the Insane	24,000	00

For	Hospital of the University of Maryland	$ 9,301 48
"	Hospital of the College of Physicians and Surgeons	16,900 00
"	Maryland General Hospital	8,712 14
"	Baltimore University Hospital	6,627 17
"	Good Samaritan Hospital	2,518 71
"	St. Joseph's Hospital	5,070 00
"	Maryland Homeopathic Hospital	2,894 82
"	St. Agnes' Hospital	4,278 78
"	St. Joseph's House of Industry	2,000 00
"	Female House of Refuge	4,000 00
"	Industrial Home for Colored Girls	3,000 00
"	Boys' Home Society	3,000 00
"	St. Vincent's Infant Asylum	7,000 00
"	St. Mary's Female Orphan Asylum	9,800 00
"	Home of the Friendless	2,100 00
"	Nursery and Child's Hospital	4,200 00
"	St. Elizabeth's Colored Orphan Asylum	3,500 00
"	St. Mary's Home for Colored Boys	500 00
"	Shelter for Aged Colored Poor	666 63
"	Dispensaries	15,250 00
"	St. Mary's Industrial School	20,000 00
"	Manual Labor School	1,500 00
"	Deaf and Dumb	498 00
"	State Tax on City Loans	43,710 75
"	assistance, Examiner of Titles	866 50
"	salaries of City Officers	77,704 56

For	Coroners	$ 6,613 25
"	Commissioners for Opening Streets	1,098 05
"	transportation to House of Correction	257 10
"	Maryland Institute	9,000 00
"	winding Maryland Institute clock	75 00
"	post-mortems	1,500 00
"	Supreme Bench	3,080 00
"	commissions and incidentals of Harbor Masters	7,184 37
"	interest on stock debt	1,403,049 14
"	Inspector of Gas and Oil, livery	296 35
"	removed cases	2,727 23
"	tax sales	4,405 88
"	condemnation of land for Park purpurposes	40,816 12
"	special appropriations	4,201 92
"	unclaimed damages	603 54
"	hose for various markets	403 00
"	Western Maryland Railroad investigation	1,360 00
"	The Simmons Home	700 00
"	commission to Harbor Master, Sixth district	20 00
"	Maryland Society, Sons of American Revolution	2,500 00
"	Street Paving Commission	3,289 33
"	Fourth Regiment, I. M. N. G	3,000 00
"	sprinkling Mount Royal avenue	900 00

For rent of room, Clerk Superior Court.	$ 337	50
" purchase of lot for Public School No. 3	5,000	00
" Veteran Volunteer Fireman's Association	1,000	00
" fire-plugs at various places	1,425	00
" drinking fountains at various places.	1,685	00
" lot for new Male and Female Primary School	9,500	00
" lot for Polytechnic Institute	10,000	00
" Manual Training School, House of Refuge	3,000	00
" St. Vincent de Paul's Orphan Asylum	2,000	00
" House of the Good Shepherd for Colored Girls	1,666	66
" Hebrew Hospital Asylum Association	1,500	00
" removing filth from docks	4,607	08
" " refuse from packing houses	5,000	00
" indexing records, Circuit Court No. 2.	1,000	00
" Internal Improvement 1928 Sinking Fund	86,850	88
" General Sinking Fund	144,731	28
" Water, 1926 Sinking Fund	28,959	29
" Public Improvement, 1940 Sinking Fund	40,884	47
" damage to Baltimore City College	500	00
" Car Fender Commission	1,183	44
" Health, special	2,749	92
" Chesapeake and Delaware Ship Canal	600	70

For	removing wreck from Jones' Falls..	$ 560 00
"	free baths.....	500 00
"	Bush-street sewer, Five Million Loan.	39,085 17
"	Penn-street sewer, " " "	13,272 33
"	Fremont-street sewer, Five Million Loan	6,704 10
"	Carey-street relief sewer, Five Million Loan.....	533 28
"	Presbury-street sewer, Five Million Loan	2,083 42
"	Druid Hill-avenue sewer, Five Million Loan.....	64,795 31
"	Pulaski-street sewer, Five Million Loan.....	294 67
"	inlets, Fulton and Monroe streets, Five Million Loan.....	3,942 19
"	inlets, Franklin street and Woodyear alley, Five Million Loan.....	1,983 35
"	paving Broadway, Five Million Loan.	19,725 81
"	paving Arlington avenue, Five Million Loan.....	1,967 18
"	paving Chase street, Five Million Loan.....	1,049 68
"	paving Lafayette avenue, Five Million Loan.....	9,104 94
"	paving Calvert street, Five Million Loan	2,370 38
"	paving Mulberry street, Five Million Loan.....	1,309 87

For paving streets around Richmond Market, Five Million Loan	$ 842	74
" paving Hanover, Lexington and Richmond Market, Five Million Loan	5	00
" Patapsco-street sewer, Six Million Loan	7,401	94
" Federal-street sewer, Six Million Loan	18,134	46
" Union-avenue sewer, Six Million Loan	201	49
" Charles-street sewer, Six Million Loan	24,768	02
" straightening Eutaw street, Six Million Loan	5	00
" Fremont-avenue sewer, Six Million Loan	24,038	51
" Bruce-alley sewer, Six Million Loan.	22,566	41
" Bush-street sewer, Six Million Loan.	158,417	25
" Patapsco-street sewer extension, Six Million Loan	17,770	36
" Fort-avenue sewer, Six Million Loan.	14,275	78
" Barclay-street sewer, Six Million Loan	3,736	59
" Orleans-street sewer, Six Million Loan	3,391	44
" Druid Hill-avenue sewer, Six Million Loan	1,929	53

For building North-avenue bridge, Six Million Loan	$206,238 22
" building Maryland-avenue bridge, Six Million Loan	14,333 20
" building Ramsay-street bridge, Six Million Loan	6,227 95
" building Ramsay-street bridge, special	1,635 38
" building Edmondson-avenue bridge, Six Million Loan	12,656 19
" building Monroe-street bridge, Six Million Loan	3,462 89
" building Columbia-avenue bridge, Six Million Loan	4,380 75
" paving Light street, Six Million Loan	80,836 23
" paving Chase street, Six Million Loan	395 30
" paving Concord street, Six Million Loan	6,246 74
" paving Lafayette avenue, Six Million Loan	84 00
" paving Frederick avenue, Six Million Loan	948 20
" paving Holliday and other streets, Six Million Loan	130,067 53
" paving Fort avenue, Six Million Loan	46,716 21

For paving Front street, Six Million Loan	$ 472	30
" paving Davis street, Six Million Loan	52	00
" paving St. Paul street, Six Million Loan	48,336	11
" paving Eager street, Six Million Loan	59	18
" paving Saratoga street, Six Million Loan	20	52
" paving Gay street, Six Million Loan.	93,536	63
" paving East Baltimore street, Six Million Loan	23	00
" paving Boston street, Six Million Loan	88,151	68
" paving Maryland avenue, Six Million Loan	40	50
" paving Franklin street, Six Million Loan	2,369	52
" paving Poppleton street, Six Million Loan	50,906	34
" paving Fayette street, Six Million Loan	33,279	34
" paving Aliceanna street, Six Million Loan	2,617	68
" paving Pleasant street, Six Million Loan	2	56
" paving McCulloh street, Six Million Loan	24,350	81
" paving Pratt street, Six Million Loan	153,738	78

For	paving Park avenue, Six Million Loan	$ 3,597	08
"	paving Madison street, Six Million Loan	12,419	04
"	paving Biddle street, Six Million Loan	1,943	72
"	New Court House, Six Million Loan.	199,618	11
"	Topographical Survey, Six Million Loan	63,555	31
"	widening Fayette street, Six Million Loan	47	30
"	purchase of lot and building Baltimore City College, Six Million Loan	50,015	00
"	purchase of lot and building Male and Female Grammar School, Annex, Six Million Loan	23,971	99
"	purchase of lot for Primary School No. 4, Six Million Loan	9,000	00
"	building Western Female High School, Six Million Loan	35,226	34
"	building addition to Annex School No. 9, six Million Loan	2,889	34
"	purchase of lot and building English-German School, No. 6, Six Million Loan	7,545	48
"	purchase of lot and building Colored Primary No. 1, Five Million Loan	7,203	00

For opening McCulloh street, Six Million Loan	$ 12,459 90
" underground wires, Six Million Loan.	13,878 90
" public improvement, 1940 Loan, Six Million Loan	18,114 47
" damages and incidentals in opening and closing streets	253,750 58
" paving streets and alleys	6,171 56
Balance in hands of City Register, December, 31, 1894	268,946 66
	$13,486,450 52

Owing to the great desire the public have for information with reference to the appropriations and expenditures under the five and six million loans, I have endeavored in this report to give a full and correct statement of the appropriations and expenditures under said loans, and the various purposes for which such appropriations were made and expenditures applied.

The information above referred to is contained in the last tables in this report, to which your attention is respectfully called.

By reference to the tabulated statements of the loan, it will be seen that expenditures have been made in the repaving of several streets without any specified appropriation therefor. The ordinances authorizing such repaving provided that the cost of the same be taken out of the money set apart to be used for paying the cost of repaving streets with improved pavements in the

ordinance authorizing the issue of bonds for permanent public improvements. A continuance of this method may result in embarrassment of a serious character. Estimates should be made of the cost of any improvement, and a definite appropriation made in accordance therewith.

Under authority of an Act passed at the session of the General Assembly of the State of Maryland, in 1892, Chapter 138, the Mayor and City Council of Baltimore, Ordinance 100, of October 7, 1892 (submitted to the legal voters of the city of Baltimore at an election held November 8, 1892, and approved), authorized the issuing of bonds for permanent public improvements, such as building a new court house, construction of sewers, building school-houses, &c., as below specified, and authorized and directed the Commissioners of Finance to issue the bonds of the city to the amount of six millions of dollars, and the proceeds thereof to be used for the following purposes:

Ground and building New Court House...	$1,750,000
Topographical survey.....	125,000
Improved pavements.....	1,600,000
Ground and building school-houses.....	400,000
Opening and widening streets.....	300,000
Construction of sewers.....	1,000,000
Undergound wires.....	225,000
Building bridges.....	600,000
	$6,000,000

The City Council has at different periods made appropriations, as follows:

For improved pavements	$1,795,989	95
" construction of sewers	694,300	00
" " " bridges	492,700	00
" purchase of ground and building schools	433,000	00
" widening Union Dock	48,994	97
" opening McCulloh street	79,405	37
" topographical survey	125,000	00
" underground wires	100,000	00
" purchase of ground and building new Court House	1,750,000	00
	$5,519,390	29

EXPENDITURES UNDER THE SIX MILLION LOAN.

For improved pavements	$1,403,724	24
" construction of sewers	354,666	57
" " " bridges	412,665	86
" ground and building schools,	185,799	36
" topographical survey	103,975	02
" underground wires	14,408	81
" ground and building new Court House	357,800	80
" opening McCulloh street	77,658	01
" widening Union Dock	48,238	18
	$2,958,936	85

EXPENDITURES UNDER THE FIVE MILLION LOAN.

For	public schools and lots	$376,689 53
"	public park, Southwest Baltimore	50,000 00
"	improvement Patterson Park	200,000 00
"	construction of bridges	259,177 96
"	" " sewers	1,713,855 19
"	improved pavements	983,072 77
"	widening East Baltimore street	168,220 33
"	" Fayette street	555,124 59
"	Opening Douglas street	373,473 46
		$4,679,613 83

The receipts from licenses taken out at this office from various sources exceed those of the previous year by nearly $7,000, and are greater than those of any previous year.

I have the honor to be
Very respectfully,
Your obedient servant,
JAMES R. HORNER,
Comptroller.

TABLES.

TABLE A.

DR. JOHN A. ROBB, *Register, in account with*

1894.			
Jan.	1.	To balance	$ 572,381 54
	31.	To cash	337,439 99
Feb.	28.	"	1,488,407 36
Mar.	31.	"	1,048,686 61
April	30.	"	732,530 31
May	31.	"	573,990 11
June	30.	"	2,585,815 39
July	31.	"	1,163,688 35
Aug.	31.	"	1,035,624 59
Sept.	30.	"	701,868 37
Oct.	31.	"	1,137,527 70
Nov.	30.	"	681,479 73
Dec.	31.	"	1,427,010 47
			$13,486,450 52

TABLE A.

the Mayor and City Council of Baltimore. Cr.

1894.						
Jan.	31.	By	Comptroller's warrants	....	$	962,403 14
Feb.	28.	"	"	"		951,194 11
Mar.	31.	"	"	"		838,485 02
April	30.	"	"	"		1,146,124 03
May	31.	"	"	"		1,428,701 68
June	30.	"	"	"		1,718,186 10
July	31.	"	"	"		1,496,353 59
Aug.	31.	"	"	"		1,024,348 84
Sept.	30.	"	"	"		764,176 01
Oct.	31.	"	"	"		830,541 41
Nov.	30.	"	"	"		1,058,423 14
Dec.	31.	"	"	"		998,566 79
	31.	"	balance	.....		268,946 66
						$13,486,450 52

TABLE B.

Collection of Taxes, Opening of Streets, &c., made by the City Collector, for the year ending December 31, 1894.

	1889.	1890.	1891.	1892.	1893.	1894.	Total.
Police Department	$ 35 99	$ 723 05	$ 7 340 17	$33,056 39	$213,429 27	$ 511,056 06	$ 765,640 93
Certain Expenses	13 33	199 46	2,359 42	10,577 95	48,615 59	163,537 91	225,303 66
Public Schools	30 66	648 27	6,029 44	33,056 40	220,169 55	654,151 72	914,086 04
City Poor	10 66	249 33	2,621 51	13,222 51	75,935 25	204,422 41	296,461 67
Direct Tax	105 30	1,745 28	12,059 01	56,856 94	203,173 44	1,062,996 58	1,336,936 55
Miscellaneous Stocks	46 66	822 76	6,291 57	39,667 66	207,584 75	470,171 54	724,584 94
Opening Streets	6 67	149 58	1,048 57	3,966 74	27,498 80	143,095 67	175,766 03
Water Tax	2 67	49 85	524 28	2,644 50	13,839 01	40,884 49	57,944 80
Water 1926 Sinking Fund	66	12 47	262 15	1,322 28	6,919 50	20,442 23	28,959 29
Internal Improvement 1928 Sinking Fund		12 47	786 35	3,966 81	20,758 52	61,326 73	86,850 88
General Sinking Fund	67		1,310 72	6,611 26	34,597 44	102,211 19	144,731 28
Public Impovement 1940 Sinking Fund						40,884 47	40,884 47
	$253 27	$4,612 52	$40,633 19	$204,949 44	$1,072,521 12	$3,475,181 00	$4,798,150 54
Interest	67 25	938 90	5,289 63	17,909 88	9,260 85		33,466 51
Discount						108,400 21	108,400 21
	$320 52	$5,551 42	$45,922 82	$222,859 32	$1,081,781 97	$3,583,581 21	$4,940,017 26
Opening and Closing Streets and Alleys							82,477 24
Paving Streets and Alleys							5,223 14
							$5,027,717 64

TABLE B—Concluded.

City Taxes received from the Annexed Territory during the year 1894.

Total amount received		$179,401 07
Of which there was collected		
on the levy of 1890	$ 230 70	
On the levy of 1891	1,494 0	
On the levy of 1892	6,296 75	
On the levy of 1893	52,475 42	
On the levy of 1894	118,904 79	
		179,401 07
The basis collected on—		
1890		31,392 00
1891		220,392 00
1892		965,918 00
1893		8,617,054 00
1894		19,817,470 00

TABLE C.

Hanover Market—John H. Mortimer, Clerk.

	Dr.	Cr.
Butcher stall rents		$1,417 50
Fish stall rents		138 00
Permanent stall rents		204 00
Eave stall rents		138 00
Street stall rents		72 00
Vegetable stall rents		500 00
Cucumber stall rents		15 00
Per diem rents		1,537 75
Licenses		790 00
		$4,812 25

TABLE C—Continued.

Belair Market—Joseph H. Wright, Clerk.

	Dr.	Cr.
Butcher stall rents		$1,875 00
Fish stall rents		166 00
Permanent stall rents		228 00
Eave stall rents		144 00
Street eave stall rents		245 00
Cucumber stall rents		450 00
Movable stall rents		202 00
Per diem rents		2,278 95
Licenses		1,765 00
		$7,353 95

TABLE C—Continued.

Lexington Market—James A. Strong, Clerk.

	Dr.	Cr.
Butcher stalls, rent and license..		$2,750 00
Fish " " ..		350 00
Permanent " " ..		1,980 00
Eave " " ..		1,540 00
Fruit " " ..		600 00
Street eave " " ..		315 00
Cucumber " " ..		655 00
Movable " " ..		294 00
Per diem rents.....		4,148 40
		$12,632 40

TABLE C—Continued.

Cross Street Market—Charles B. Kemper, Clerk.

	Dr.	Cr.
Butcher stall rents		$ 885 00
Fish stall rents		190 00
Permanent stall rents		395 00
Eave stall rents		430 00
Vegetable stall rents		320 00
Street Eave stall rents		245 00
Per diem rents		2,166 60
		$4,631 60

TABLE C—Continued.

Hollins Market—James Biden, Clerk.

	Dr.	Cr.
Butcher stalls, rent and license..		$697 00
Fish " " ..		60 00
Permanent " " ..		200 00
Eave " " ..		220 00
Space " " ..		205 00
Street eave " " ..		605 00
Pavement " " ..		25 00
End " " ..		55 00
Three and nine months stalls, rents and license.....		30 00
Per diem rents.....		1,443 85
		$ 3,540 85

TABLE C—Continued.

Centre Market—M. J. Mulcrone, Clerk.

	Dr.	Cr.
Butcher stalls, rents and license.		$1,397 00
Fish " " ..		724 00
Permanent " " ..		540 00
Eave " " ..		458 00
Street eave " " ..		95 00
Gutter " " ..		281 00
Movable " " ..		461 00
Per diem rents.....		1,996 60
		$5,952 60

TABLE C—Continued.

Richmond Market—George H. Clifton, Clerk.

	Dr.	Cr.
Butcher stalls, rent and license..		$191 50
Permanent " " " ..		79 00
Fish " " " ..		50 00
Eave " " " ..		60 00
Space " " " ..		65 00
Kerb " " " ..		45 00
Movable " " " ..		27 00
Aisle " " " ..		30 00
Street " " " ..		5 00
Per diem rents.....		1,204 55
		$1,757 05

Fell's Point Market—Wm. A. Callahan, Clerk.

	Dr.	Cr.
Butcher stalls, rent and license		$1,170 00
Fish " "		52 00
Permanent " "		378 00
Eave " "		378 00
Vegetable " "		826 00
Street " "		26 00
Movable " "		52 00
Per diem rents		1,571 25
Licenses		1,890 00
		$6,343 25

TABLE C—Continued.

Lafayette Market—John Farrell, Clerk.

	Dr.	Cr.
Butcher stalls, rent and license ..		$315 00
Permanent " " ..		450 00
Eave " " ..		447 00
Space " " ..		182 00
Street eave " " ..		65 00
Per diem rents		736 60
		$2,195 60

TABLE C—Continued.

Northeast Market—Charles Briggeman, Clerk.

	Dr.	Cr.
Butcher stalls, rent and license..		$275 00
Fish " " ..		28 00
Permanent " " ..		72 00
Movable " " ..		42 00
Street eave " " ..		10 00
Vegetable " " ..		463 00
End " " ..		35 00
Six-months " " ..		4 50
Per diem rents.....		761 80
		$1,691 30

TABLE C—Continued.

Canton Market—John Cadden, Clerk.

	Dr.	Cr.
Butcher stalls, rent and license..		$135 00
Permanent " "		90 00
Eave " "		105 00
Fish " "		14 00
Per diem rents.....		205 00
		$549 00

TABLE C—Continued.

Summary of Markets.

	Dr.	Cr.
Hanover Market		$ 4,812 25
Belair "		7,353 95
Cross-street "		4,631 60
Lexington "		12,632 40
Hollins "		3,540 85
Centre "		5,952 60
Richmond "		1,757 05
Fells Point "		6,343 25
Lafayette "		2,195 60
Northeast "		1,691 30
Canton "		549 00
		$51,459 85
Expenses of cleaning, repairs, etc.		
Hanover Market	$445 96	
Belair "	530 80	
Cross-street "	309 25	
Lexington "	666 00	
Hollins "	340 85	
Centre "	663 15	
Richmond "	409 25	
Fells Point "	501 50	
Lafayette "	256 34	
Northeast "	313 25	
Canton "	174 00	
		$4,610 35
Net revenue		$46,849 50

TABLE C—Continued.

Public Halls.

	Dr.	Cr.
Cross Street Hall.		
By amount received for rent.....		$214 00
To amount paid for cleaning, etc...	$32 75	
Hollins Hall.		
By amount received for rent.....		367 00
To amount paid for cleaning, etc....	165 75	
Broadway Hall.		
By amount received for rent.....		20 00
To amount paid for cleaning, etc....	4 50	
To balance, December 31, 1894.....	398 00	
	$601 00	$601 00

TABLE C—Continued.

Receipts from Licenses.

	Dr.	Cr.
Wagons, 1 horse		$17,460 50
" 2 and 3 horses		9,766 05
" 4 or more horses		827 80
Carts		5,096 55
Drays		374 85
Omnibusses, cars and hacks		3,705 30
Package carts		528 10
Lighters		338 65
Bacon and Puddings		1,802 10
Bowling Alleys		50 00
Merchandise		131 50
Foreign fruit		384 10
Billiards		1,757 80
Bagatelle		935 90
Pawnbrokers		1,000 00
Peddlers		1,114 40
Dogs		572 40
Coal Oil		1,416 00
Theatricals		3,087 00
Telegraph poles		14,323 14
		$64,672 14

TABLE C—Concluded.

Collection of Wharfage from January 1, 1894, to December 31, 1894.

Date.	1st District.	2d District.	3d District.	4th District.	5th District.	Aggregate.
January	$70 50	$142 08	$133 50	$429 00	$1,238 33	$2,013 41
February	72 45	135 42	132 60	432 00	423 82	1,196 29
March	69 25	144 65	134 70	452 00	1,971 69	2,772 29
April	53 75	164 29	125 25	369 00	1,608 77	2,321 06
May	85 25	211 07	188 26	370 50	1,589 76	2,444 84
June	52 25	378 08	203 75	380 10	1,668 16	2,682 34
July	64 50	310 95	228 43	366 55	1,381 90	2,352 33
August	64 75	367 57	306 49	384 15	1,221 50	2,344 46
September	58 75	378 36	319 30	527 50	1,213 87	2,497 78
October	54 00	171 56	306 96	387 50	1,231 60	2,151 62
November	66 25	171 96	249 38	437 50	1,365 54	2,290 63
December	74 25	210 94	212 00	423 50	1,402 22	2,322 91
	$785 95	$2,786 93	$2,540 62	$4,959 30	$16,317 16	$27,389 96

Total collections from January 1, 1894, to December 31, 1894		$27,389 96
Less amount paid to Harbor Masters	$5,477 97	
Less amount paid for boatman's salary	1,200 00	
Less amount paid for rent and incidental expenses	408 90	
Less amount paid for new boat for First District	97 50	
		7,184 37
Net revenue		$20,205 59

TABLE D.

Criminal Court.

				Dr.	Cr.
By appropriation, Ordinance No. 50					$60,000 00
To amount paid	Bailiffs			$ 7,500 00	
"	"	"	Clerks	15,092 05	
"	"	"	States' Attorney	15,298 95	
"	"	"	Sheriff	10,798 90	
"	"	"	for board of Jurors	443 25	
"	"	"	for stationery Grand Jury	188 00	
"	"	"	for expert testimony	300 00	
"	"	"	for judges' calendar	200 00	
"	"	"	for detectives' expenses	184 43	
"	"	"	for stenographers	906 39	
"	"	"	for witness fees	141 00	
"	"	"	for surveys	40 00	
"	"	"	for attorney fees.	340 00	
"	"	"	for summoning witnesses	18 00	
"	"	"	for jury list	42 00	
"	"	"	for directories	12 00	
"	"	"	for Grand and Petit Jurors	14,593 25	
"	"	"	for special work.	12 00	
"	"	"	for analysis	900 00	
By balance, December 31, 1894					7,010 22
				$67,010 22	$67,010 22

TABLE D—Continued.

Superior Court.

	Dr.	Cr.
By appropriation, Ordinance No. 50		$15,000 00
To amount paid Bailiffs	$6,000 00	
" " Clerk	2,189 38	
" " Sheriff	334 50	
" " Janitor	420 00	
" " Jurors	5,785 50	
To balance, December 31, 1894.	270 62	
	$15,000 00	$15,000 00

TABLE D—Continued.

Baltimore City Court.

	Dr.	Cr.
By appropriation, Ordinance No. 50		12,000 00
To amount paid Bailiffs	4,500 00	
" " Clerk	1,512 20	
" " Sheriff	291 80	
" " Jurors	5,347 00	
" " Stenographer	1,000 00	
" " for stationery	217 20	
By balance, December 31, 1894.		868 20
	$12,868 20	$12,868 20

TABLE D—Continued.

Court Common Pleas.

	Dr.	Cr.
By appropriation, Ordinance No. 50		$13,000 00
To amount paid Bailiffs	$ 4,500 00	
" " " Sheriff	327 00	
" " " Clerk	1,923 12	
" " " Watchman	1,000 01	
" " " Jurors	6,040 10	
By balance, December 31, 1894.		790 23
	$13,790 23	$13,790 23

TABLE D—Continued.

Circuit Court.

	Dr.	Cr.
By appropriation, Ordinance No. 50		$4,500 00
To amount paid Bailiffs	$3,000 00	
" " " Watchman	900 00	
" " " Clerk	239 40	
" " " for stationery	98 85	
By balance, December 31, 1894.	261 75	
	$4,500 00	$4,500 00

TABLE D—Continued.

Circuit Court No. 2.

	Dr.	Cr.
By appropriation, Ordinance No. 50		$2,500 00
By appropriation, Resolution No. 274		600 00
To amount paid Bailiff	$1,500 00	
" " Watchman	900 00	
" " Clerk	475 00	
" " stationery	70 85	
By balance, December 31, 1894	154 15	
	$3,100 00	$3,100 00

TABLE D—Continued.

Orphans' Court.

	Dr.	Cr.
By appropriation, Ordinance No. 50		$8,000 00
To amount paid Judges	$5,634 00	
" " Bailiff	1,252 00	
" " Janitor	900 00	
" " stationery	70 15	
To balance, December 31, 1894.	143 85	
	$8,000 00	$8,000 00

TABLE D—Continued.

Supreme Bench.

	Dr.	Cr.
By appropriation, Ordinance No. 50		$3,035 00
To amount paid Judges	$3,000 00	
To amount paid City Collector for furnishing list of taxpayers,	50 00	
To amount paid for stenography.	30 00	
By balance, December 31, 1894		45 00
	$3,080 00	$3,080 00

TABLE D--Continued.

Magistrates.

	Dr.	Cr.
By appropriation, Ordinance No. 50		$16,000 00
To amount paid Magistrates	$15,847 19	
" " Substitutes	693 83	
By balance, December 31, 1894		$441 02
	$16,441 02	$16,441 02

Fines.

	Dr.	Cr.
By amount of city's proportion of fines		$6,635 42
To amount paid for fines remitted by the Mayor	$ 923 50	
To balance, December	5,711 92	
	$6,635 42	$6,635 42

TABLE D--Continued.

City Council.

	Dr.	Cr.
By appropriation, Ordinance No. 50		$60,000 00
To amount paid to members	$33,124 99	
" " clerks, etc	15,699 36	
To amount paid for printing and other expenses	9,378 15	
To balance, December 31, 1894	1,797 50	
	$60,000 00	$60,000 00

TABLE D—Continued.

Police Department.

	Dr.	Cr.
By appropriation, Ordinance No. 50		$805,550 00
To amount paid on warrants of the Board of Police Commissioners	$805,550 00	
	805,550 00	$805,550 00
Received from the City Collector on account of the levy for the Police Department		$765,640 93

TABLE D—Continued.

Supervisors of Elections.

	Dr.	Cr.
By appropriation, Ordinance No. 50		$13,500 00
To amount paid Supervisors and Clerk	$ 9,000 00	
To amount paid Counsel	1,800 00	
To amount paid messenger and extra clerical assistance	837 50	
To amount paid for printing and incidentals	344 61	
To balance, December 31, 1894,	1,517 89	
	$13,500 00	$13,500 00

TABLE D—Continued.

Removed Cases.

	Dr.	Cr.
By amount received from Baltimore County		$ 19 70
By amount received from Anne Arundel County		237 46
By amount received from Carroll County		200 76
By amount received from Howard County		768 33
By amount received from Harford County		391 89
To amount paid sundry parties.	$2,727 23	
By balance, December 31, 1894.		1,109 09
	$2,727 23	$2,727 23

TABLE D—Continued.

Registration.

	Dr.	Cr.
By appropriation, Ordinance No. 50		$42,000 00
To amount paid Registration Officers and room rent	$22,653 45	
To amount paid for advertising	14,486 49	
To amount paid extra counsel	1,500 00	
To balance, December 31, 1894	3,360 06	
	$42,000 00	$42,000 00

TABLE 'D—Concluded.

Baltimore City Jail.

	Dr.	Cr.
By appropriation, Ordinance No. 50		55,000 00
By amount received for Board of U. S. prisoners		943 20
By amount received from hire of prisoners		5,593 16
By amount received from sale of refuse		265 78
By amount received from Board of County prisoners		50 50
By amount received from Hurst, Purnell & Co., discount		24 76
To amount paid on warrants of the Board of Visitors	54,110 31	
To balance, December 31, 1894	7,767 09	
	$61,877 40	$61,877 40

TABLE E.

General Interest.

	Dr.	Cr.
By appropriation, Ordinance No. 50		$ 75,000 00
By amount received from City Collector for interest on arrears for taxes		141,866 72
By amount received from Brush Electric Company		19 49
By amount received from Westtern Maryland R. R. Co.		796 61
By amount received from Mercantile Trust and Deposit Co.		1,379 15
To amounts paid for interest on loans and accounts due by the Mayor and City Council of Baltimore	$172,426 43	
To balance, December 31, 1894.	46,635 54	
	$219,061 97	$219,061 97

TABLE E—Continued.

Water Board.

	Dr.	Cr.
To balance, January 1, 1894	$121,821 50	
By amount received from water rents, &c		$754,005 87
By amount received from City Collector on account of water tax		57,944 80
To amount paid on warrants of the Water Board for interest on loan, salaries and other expenses	739,398 25	
By balance, December 31, 1894.		49,269 08
	$861,219 75	$861,219 75

TABLE E—Continued.

Public Schools.

	Dr.	Cr.
By appropriation, Ordinance No. 50.		$1,012,515 00
To amount paid on warrants of the Board of School Commissioners.	$973,825 25	
To balance, December 31, 1894.	38,689 75	
	$1,012,515 00	$1,012,515 00
Receipts from various sources:		
From the City Collector, on account of the tax levy.		$914,086 04
From the State, city's proportion of State tax		214,726 14
From John F. Plummer, Executor.		114 50
From H. M. Cowles, Secretary		4,057 45
		$1,132,984 13

TABLE E—Continued.

Dog Pound.

	Dr.	Cr.
By appropriation, Ordinance No. 50		$1,500 00
By amount received for dead dogs		34 41
By amount received for dogs redeemed		216 75
By amount received for dogs sold at auction		29 83
To amount paid for dogs captured	$1,263 80	
To balance, December 31, 1894	517 19	
	$1,780 99	$1,780 99

TABLE E—Continued.

City Property.

	Dr.	Cr.
By appropriation, Ordinance No. 50		$44,506 00
By sundry parties, ground rent due the City		286 00
To amount of rents paid sundry parties	$43,185 02	
To balance, December 31, 1894	1,606 98	
	$44,792 00	$44,792 00

TABLE E—Continued.

Gas and Electric Lights.

	Dr.	Cr.
By appropriation, Ordinance No. 50		$141,000 00
By appropriation, Ordinance No. 50		1,886 94
By appropriation, Ordinance No. 50		132,000 00
By appropriation, Resolution No. 117		6,987 45
To amount paid for electric lights	$133,285 94	
To amount paid for gas	141,878 27	
To balance, December 31, 1894	6,710 18	
	$281,874 39	$281,874 39

TABLE E—Continued.

State Tax on City Loans.

	Dr.	Cr.
By appropriation, Ordinance No. 50		$40,000 00
By amount received from City Register, Commissioners of Finance, etc		7,947 25
To amount paid State Treasurer.	$43,710 75	
To balance, December 31, 1894.	4,236 50	
	$47,947 25	$47,947 25

TABLE E—Continued.

Internal Improvement 1928 *Loan.*

	Dr.	Cr.
By balance, January 1, 1894....		$199,550 19
To amount paid on account of sundry sewers, bridges and paving streets.....	$29,164 02	
To balance, December 31, 1894.	170,386 17	
	$199,550 19	$199,550 19

TABLE E—Concluded.

Public Improvement 1940 *Loan.*

	Dr.	Cr.
By balance, January 1, 1894.		539,472 25
By amount received from sale of bonds...		991,075 72
To amount paid Commissioners of Finance as premium on bonds.....	18,114 47	
To amount paid on account of sundry sewers, bridges, school-houses, and paving streets, &c.....	1,738,970 35	
By balance, December 31, 1894....		226,536 85
	$1,757,084 82	$1,757,084 82

TABLE F.

Druid Hill and Patterson Parks.

	Dr.	Cr.
By balance, January 1, 1894		$2,378 16
By amount received from City Passenger Railway Companies, as follows:		
Baltimore City Passenger Railway Company		84,840 68
Baltimore Traction Company		65,898 86
City and Suburban Railway Company		39,820 82
Central Passenger Railway Company		17,472 70
Lake Roland Elevated Railway Company		13,425 93
By amount received from Park Commissioners, as follows:		
Druid Hill Park		2,838 17
Patterson Park		502 32
Federal Hill Park		222 50
Carroll Park		762 00
Riverside Park		5 00
Liberty-street Triangle		15 37
To amount paid on warrants of the Park Commissioners	$224,691 81	
To balance, December 31, 1894	3,490 70	
	$228,182 51	$228,182 51

TABLE F—Concluded.

Patterson Park Extension.

	Dr.	Cr.
By balance, January 1, 1894..		$594 43
To amount paid on warrants of the Park Commissioners.	$ 55 28	
To balance, December 31, 1894.	539 15	
	$594 43	$594 43

STATEMENT A.

Accounts.	Appropriations.	Expenditures.	Receipts.	Balance, Dr.	Balance, Cr.
PUBLIC SQUARES.					
Harlem Park		$3,999 63	$4,000 00		$ 37
Eutaw Squares, 1st Div.		1,800 00	1,800 00		
" " 2d "		1,999 99	2,000 00		01
Madison Square		2,799 66	2,800 00		34 00
Lafayette Square		1,994 06	2,000 00		5 94
Perkins Spring Square		1,799 90	1,800 00		10
Fulton Avenue Squares and Baker Circle		3,499 39	3,500 00		61
Union Square		1,734 08	1,736 17		2 09
Broadway Squares, 1st Division		1,864 75	2,000 00		135 25
Broadway Squares, 2d Division		1,799 92	1,800 00		08

Broadway Squares, 3d Division		$ 2,999 97	$ 3,000 00		$ 03
Franklin Square		1,499 52	1,500 00		48
Mount Vernon Squares		1,600 00	1,600 00		
Park Place "		895 67	900 00		4 33
Ashland Square		135 06	150 00		14 94
Mt. Royal Ave. Squares		2,908 96	3,000 00		91 04
Jackson Square		1,199 73	1,200 00		27
Taney Place Square		287 35	300 00		12 65
Wilkens Ave. Squares		2,499 62	2,500 00		38
Eastern Fountain		1,438 15	1,500 00		61 85
HEALTH DEPARTMENT.					
General Health	$19,000 00	18,242 39	25 00		782 61
Salaries	39,300 00	39,300 00			
Nuisances	15,000 00	14,926 96			73 04
Quarantine Hospital	20,000 00	19,889 24	5,614 13		5,724 89
Post Mortems	1,500 00	1,500 00			
Removing filth from docks	5,000 00	4,607 08			392 92
Removing refuse from packing houses	5,000 00	5,000 00			
HARBOR.					
Dredging, salaries, &c.	35,000 00	34,314 38			685 62
Ice-boats	22,000 00	23,649 66	1,713 94		64 28

STATEMENT A—Continued.

Accounts.	Appropriations.	Expenditures.	Receipts.	Balance, Dr.	Balance, Cr.
Repairs of wharves....	$ 3,000 00	$ 2,455 29	.....	.....	$ 544 71
Removing ashes from tow-boats.....	1,500 00	1,454 86	.....	.....	45 14
Widening mouth of the harbor	5,000 00	3,312 27	.....	.....	1,687 73
Dredging Jones' Falls.	15,000 00	15,000 00	.....	.....	.....
CITY COLLECTOR.					
Salaries, incidentals, &c	59,000 00	58,929 27	.....	.....	70 73
Appeal Tax Court....	1,200 00	1,191 98	.....	.....	8 02
CLEANING STREETS.					
Salaries, cleaning streets, etc.....	319,388 00	290,187 24	$679 17	.....	29,879 93
Removal of garbage...	9,500 00	9,500 00	.....	.....	.....

CITY POOR.					
Bay View Asylum	$105,000 00	$104,998 61	$1,454 24		$1,455 63
House of Refuge	20,000 00	20,000 00			
House of Reformation	12,000 00	12,000 00			
Mount Hope Retreat	33,000 00	33,000 00	685 00		685 00
Maryland Hospital for Insane	24,000 00	24,000 00	620 00		620 00
Maryland University Hospital	9,700 00	9,301 48			398 52
Hospital of College Physicians and Surgeons	16,900 00	16,900 00			
Maryland General Hospital	8,855 00	8,712 14			142 86
Baltimore University Hospital	6,760 00	6,627 17			132 83
Good Samaritan Hospital	2,940 00	2,518 71			421 29
St. Joseph's Hospital	5,070 00	5,070 00			
Maryland Homeopathic Hospital	3,380 00	2,894 82			485 18
St. Agnes' Hospital	4,630 00	4,278 78			351 22
St. Joseph's House of Industry	2,000 00	2,000 00			

STATEMENT A—Continued.

Accounts.	Appropriations.	Expenditures.	Receipts.	Balance, Dr.	Balance, Cr.
Female House of Refuge	$4,000 00	$4,000 00			
Industrial Home for Colored Girls	3,000 00	3,000 00			
Boys' Home Society	3,000 00	3,000 00			
St. Vincent's Infant Asylum	7,000 00	7,000 00			
St. Mary's Female Orphan Asylum	9,800 00	9,800 00			
Home of the Friendless	2,100 00	2,100 00			
Nursery and Childs' Hospital	4,200 00	4,200 00			
St. Elizabeth's Colored Orphan Asylum	4,000 00	3,500 00			$500 00

St. Mary's Home for Colored Boys	$500 00	$500 00			
Shelter for Aged Colored Poor	1,000 00	666 63			$333 37
The Simmons Home	700 00	700 00			
St. Mary's Industrial School	20,000 00	20,000 00			
Manual Labor School	1,500 00	1,500 00			
Deaf and Dumb at Frederick	500 00	498 00			2 00
Transportation of Poor	1,000 00	997 96	$162 88		164 92
St. Vincent de Paul's Orphan Asylum	2,000 00	2,000 00			
Manual Training School, House of Refuge	3,000 00	3,000 00			
House Good Shepherd for Colored Girls	2,500 00	1,666 66			833 34
Hebrew Hospital Asylum Association	1,500 00	1,500 00			
DISPENSARIES.					
Southern Homeopathic	500 00	500 00			
Northeastern	900 00	900 00			

STATEMENT A—Continued.

Accounts.	Appropriations.	Expenditures.	Receipts.	Balance, Dr.	Balance, Cr.
Eastern	$ 1,800 00	$ 1,800 00			
Baltimore General	2,000 00	2,000 00			
Baltimore Medical	1,500 00	1,500 00			
Maryland Homœpathic Free	1,000 00	1,000 00			
College Physicians and Surgeons	1,450 00	1,450 00			
Woman's and Child's Hospital	500 00	500 00			
Baltimore University	1,200 00	1,200 00			
Maryland University	1,000 00	1,000 00			
Baltimore College of Dental Surgery	500 00	500 00			
Southern	1,200 00	1,200 00			

Eye, Ear and Throat Charity Hospital...	$ 500 00	$ 500 00	.....	.....	.....
Evening Dispensary for Working Girls.....	700 00	700 00	.....	.....	.....
Dental Department, Maryland University	500 00	500 00	.....	.....	.....
GENERAL SUPERINTENDENT OF LAMPS' DEPARTMENT.					
Gasoline lamps, lamp pillars, etc.....	6,580 00	6,539 01	$ 200 00	.....	$ 240 99
Lamplighters' salaries	47,500 00	47,930 03	.....	$430 03	.....
Inspecting gas meters.	.....	.....	2,472 75	.....	2,472 75
INSPECTOR OF BUILDINGS' DEPARTMENT.					
Salaries, incidentals, etc.....	6,200 00	6,200 00	.....	.....	.....
Repairs Public Schools	21,500 00	21,497 65	.....	.....	2 35
" City Property.	21,000 00	18,361 75	.....	.....	2,638 25
Permits for sheds, boilers, etc.....	.....	355 76	11,032 00	.....	10,676 24
Cleaning cess-pools...	1,000 00	689 00	.....	.....	311 00
New roof on City Jail.	18,000 00	17,935 83	.....	.....	64 17
Building No. 17 Engine House.....	12,500 00	12,500 00	.....	.....	.....

STATEMENT A—Continued.

Accounts.	Appropriations.	Expenditures.	Receipts.	Balance, Dr.	Balance, Cr.
Building disinfecting plant, Quarantine...	$13,324 35	$13,008 02	.....	.....	$316 33
Extra help, Inspector of Buildings.....	5,800 00	5,800 00	.....	.....	.....
Winding clocks at engine houses.....	200 00	200 00	.....	.....	.....
Rental of auxilliary fire alarm boxes.....	4,300 00	4,300 00	.....	.....	.....
Sanitary and other improvements.....	4,000 00	3,975 90	.....	.....	24 10
Painting buildings at Quarantine.....	1,500 00	1,495 55	.....	.....	4 45
Building No. 19 Engine House.....	15,000 00	13,294 87	.....	.....	1,705 13

Building No. 10 Hook and Ladder House..	$12,000 00	$ 8,764 23	.....	.....	$ 3,235 77
Cleaning Battle Monument.....	500 00	435 00	.....	.....	65 00
Extension shed, Lafayette market.....	2,500 00	2,486 35	.....	.....	13 65
Building Primary School, South Balto.	10,000 00	.....	.....	.....	10,000 00
Building addition to Colored Manual Training School....	600 00	600 00	.....	.....	.....
CITY COMMISSIONER'S DEPARTMENT.					
Repairs of paved streets	90,130 21	89,982 50	$ 252 98	.....	400 69
Repairs of bridges.....	8,937 11	7,316 72	9 32	.....	1,629 71
Repairs of sewers.....	7,500 00	6,645 18	3,780 55	.....	4,635 37
Light-street bridge...	7,500 00	7,468 26	.....	.....	31 74
Salaries, incidentals and livery.....	10,760 00	10,613 40	.....	.....	146 60
Flag and stepping stones.....	3,107 00	3,092 26	.....	.....	14 74
Cross streets.....	5,000 00	4,933 52	.....	.....	66 48
Improvement Harford Run.....	.....	201 14	17,679 20	.....	17,478 06

STATEMENT A—Continued.

Accounts.	Appropriations.	Expenditures.	Receipts.	Balance, Dr.	Balance, Cr.
Repairs unpaved streets	$ 5,442 11	$ 4,928 28			$ 513 83
Building Douglas-street bridge		382 09	$ 3,247 19		2,865 10
Paving city property	800 00	793 51			6 49
Iron plates various places	50 00	63 24		$ 13 24	
Inlets McKim and Eager streets	350 00	332 45			17 55
Grading Lanvale and other streets	500 00	380 00			120 00
Iron plates		243 76		243 76	
Inlets to sewer Druid Hill avenue and Preston street	55 15				55 15

Trapping inlets Pennsylvania avenue and Pearl street	$ 500 00	$ 382 83			$ 117 17
Inlets various places. Deficiency	114 36	114 36			
Repairing Eutaw Place. Deficiency	6,088 25	6,088 25			
Repairing Madison street. Deficiency	182 52	182 52			
Paving Hanover street. Deficiency	1,709 43	1,709 43			
Paving Concord street Deficiency	65 06				65 06
Paving streets around Northeast Market	1,703 20	1,703 20			
Shelling Leadenhall street	300 00	265 36			34 64
Inlets Carey and Franklin streets	1,050 50	1,049 33			67
Close inlet Light street, near Weber street	25 00				25 00
Shelling Canton avenue and Luzerne street	75 00				75 00
Boardwalk, Marshall avenue	1,000 00	947 27			52 73

STATEMENT A—Continued.

Accounts.	Appropriations.	Expenditures.	Receipts.	Balance, Dr.	Balance, Cr.
Grading McCulloh street	$ 402 50	$ 402 50	.....	.....	.....
Removing iron railing, Prospect Park	150 00	149 83	$ 16 00	.....	$ 16 17
Change gutter Canton avenue and Essex street	800 00	764 53	.....	.....	35 47
Inlets Monument street and Central avenue.	1,100 00	1,100 00	.....	.....	.....
Grading Monroe street.	5,700 00	5,584 69	.....	.....	115 31
Macadamizing Park Heights avenue	3,000 00	2,993 63	.....	.....	6 37
Repairing Block street drawbridge	4,000 00	3,968 69	14 63	.....	45 94

Draining property, Light street	$ 200 00	$ 200 00			
Inlets West and Race streets	1,000 00	958 36			$ 41 64
Building North avenue bridge. Special		6,174 84	$9,000 00		2,825 16
Kerbing Park avenue		91 60		$ 91 60	
FIRE DEPARTMENT.					
Salaries, incidentals, repairs, &c	350,062 10	349,781 29	242 90		523 71
Fire-alarm boxes destroyed by electric light wires	1,605 55	1,605 55			
Fire-alarm boxes, various places	1,025 00	1,000 00			25 00
MISCELLANEOUS.					
Mayoralty	2,800 00	2,429 34			370 66
Auction duties			8,368 72		8,368 72
Superintendent City Hall	17,450 00	16,786 94			663 06
City Librarian	7,321 00	6,954 28	114 85		481 57
Refunded taxes		3,652 00		3,652 00	
Court House	6,319 00	5,301 50			1,017 50
City and Circuit courts	4,769 00	4,460 68			308 32

STATEMENT A—Continued.

Accounts.	Appropriations.	Expenditures.	Receipts.	Balance, Dr.	Balance, Cr.
General license	$ 2,000 00	$ 828 12			$ 1,171 88
General expense	2,000 00	1,438 54			561 46
Public printing	4,128 75	4,401 20	$ 78 00		105 55
Liquor License Commission	16,000 00	14,728 51			1,271 49
Temporary loans		3,491,943 33	3,975,651 00		483,707 67
Pension to W. H. War	485 00	485 00			
Sewerage Commission	4,396 24	2,572 92			1,823 32
Permanent water supply		3,397 60	3,834 92		437 32
Aiquor licenses			403,985 78		403,985 78
Lssistance to Examiner of Titles	1,000 00	866 50			133 50
Salaries	77,719 56	77,704 56			.15 00
Coroners	6,606 25	6,613 25		7 00	

Commissioners Opening Streets	$1,100 00	$1,098 05			$1 95
Transportation, House Correction	300 00	257 10			42 90
Winding Maryland Institute clock	75 00	75 00			
Inspector of Gas and Oils, livery	375 00	296 35			78 65
Tax sales		4,405 88	$3,247 77	$1,158 11	
Special appropriations	4,225 92	4,201 92			24 00
Unclaimed damages		603 54	591 66	11 88	
Hose, various markets	700 00	403 00			297 00
Western Maryland R. R. investigation	1,600 00	1,360 00			240 00
Telephone conduits			4,635 80		4,635 80
Rent of Court House property			220 00		220 00
Wharfage, 6th district		20 00	100 00		80 00
City seals			6 50		6 50
Maryland Society Sons of the American Revolution	2,500 00	2,500 00			
Street Paving Commission	3,289 33	3,289 33			
Turnpike dividends			156 66		156 66

STATEMENT A.—Concluded.

Accounts.	Appropriations.	Expenditures.	Receipts,	Balance, Dr.	Balance, Cr.
Fourth Regiment, Inf., M. N. G	$ 3,000 00	$ 3,000 00			
Rent of fence, Fayette, St. Paul and Calvert streets			$ 172 50		$ 172 50
Sprinkling Mt. Royal avenue	900 00	900 00			
Rent of rooms for Clerk Superior Court	450 00	337 50			112 50
Purchase of lot for Public School No. 3.	10,000 00	5,000 00			5,000 00
Veteran Volunteer Firemen's Association	1,000 00	1,000 00			

Fire-plugs at various places	$ 1,425 00	$ 1,425 00			
Drinking fountains, various places	1,760 00	1,685 00			$ 75 00
Lot for new Male and Female Primary school	9,500 00	9,500 00			
Lot for Polytechnic Institute	10,000 00	10,000 00			
Lot for Primary School, South Baltimore	10,000 00	6,703 10			3,296 90
Indexing Records, Circuit Court No. 2	1,000 00	1,000 00			
Damage to Baltimore City College		500 00	22,500 00		22,000 00
Car-fender Commission	2,000 00	1,183 44			816 56
Chesapeake and Delaware Ship Canal	600 70	600 70			
Removing wreck from Jones' Falls	560 00	560 00			
Free baths	500 00	500 00			
Totals	$1,862,322 65	$5,337,329 49	$4,521,652 21	$5,607 62	$1,052,252 99

STATEMENT B.

Accounts.	Appropriations.	Expenditures.	Receipts.	Balance, Dr.	Balance, Cr.
Opening alley, Gold to Bloom street		$ 30 25		$ 30 25	
Opening Northwest st.		227 63		227 63	
" Chew street	$6,185 84	11,840 18	$3,642 99	2,011 35	
" Chase street	7,711 94	12,264 78	4,672 00		$ 119 16
" Smallwood st		29 95		29 95	
" Bruce alley		110 50		110 50	
" Townsend st.	9,346 64	17,327 70	7,400 00	581 06	
" Fairmount av,		38 05		38 05	
" Lanvale street		61 25		61 25	
" Carroll street		78 90		78 90	
" Nanticoke st.		79 65		79 65	
" Fulton ave., South		53 15		53 15	
Opening Madison st.		104 36	1,583 85		1,479 49

Opening Stockholm st.	$ 22,090 00	$ 28,556 90	$ 5,984 75	.....	$ 517 85
" Fayette street	.....	38 70	.....	$ 38 70	.....
" Cleaveland st.	.....	86 60	.....	86 60	.....
" Kirby's lane..	.....	11 40	.....	11 40	.....
" Federal street	17,812 39	27,191 15	12,747 50	.....	3,368 74
" Covington st.	31,688 85	36,863 04	3,811 00	1,363 19	.....
" Port alley....	2,251 91	4,654 50	2,496 24	.....	93 65
" Eutaw street.	.....	17 60	.....	17 60	.....
" St. Paul street	34,238 35	42,618 47	8,415 12	.....	35 00
" Whitelock st.	.....	.....	552 50	.....	552 50
" Collington av	11,436 55	21,592 86	13,227 37	.....	3,071 06
" Bouldin alley	.....	.....	2,973 56	.....	2,973 56
" Ward street..	177 45	1,404 18	984 79	241 94	.....
" Windsor ave..	.....	187 21	.....	187 21	.....
" Patapsco alley	984 89	.....	.....	.....	984 89
" Race street...	946 60	.....	.....	.....	946 60
" Burke street..	231 00	.....	.....	.....	231 00
" Cooksie street	75 00	.....	.....	.....	75 00
" Henry street.	183 00	.....	.....	.....	183 00
" Brice alley...	397 50	1,987 50	1,590 00	.....	.....
" Bethel street.	8,003 46	12,365 31	3,482 78	879 07	.....
" Randall street	2,565 52	6,116 00	3,642 50	.....	92 02
" Webster street	3,064 31	2,932 87	529 50	.....	660 94
" Clement street	6,795 28	8,533 32	2,076 00	.....	337 96
" Etting street.	8,270 09	11,588 83	936 00	2,382 24	.....

STATEMENT B.—Concluded.

Accounts.	Appropriations.	Expenditures.	Receipts.	Balance, Dr.	Balance, Cr.
Opening Forrest street		$ 43 25		$ 43 25	
" Cannon street		319 25		319 25	
" Luzerne street		307 20		307 20	
Widening East and Chestnut streets		1,104 00		1,104 00	
Opening Brunt street		164 84		164 84	
" Bayard street		235 92		235 92	
" Alluvian st		159 03		159 03	
" Rose street		511 25		521 25	
" Neighbor st		21 55		11 55	
" Dallas street		286 52		286 52	
" Castle street		24 64	$ 55 00		$ 30 36
" Ludlow street		160 00		160 00	
" Burrow street		50 00		50 00	
" Myrtle ave		30 00		30 00	

Opening Durham st.		$ 520 11	$ 520 11		
Closing Sumwalt lane.		170 90		$ 170 90	
" Fourth lane		155 45	474 15		$ 318 70
" Jew alley		38 78	493 83		455 05
" Truxton street.		311 70		311 70	
" Milliman street		13 90		13 90	
" Court House la		130 00		130 00	
Totals	$175,456 57	$253,750 58	$82,291 54	$12,529 00	$16,526 53

TABLE G.

Amount Paid for Paving Streets.

	Dr.	Cr.
Paving Fairmount avenue	$4,293 32	$3,476 87
" Riggs avenue	104 75	
" Mount street	422 32	
" Townsend street	201 78	
" Patterson Park avenue	406 83	1,746 27
" North avenue	4 80	
" Gold street	42 76	
" Monroe and Eagle streets.		5,700 00
" South Charles street		3,500 00
" Preston street	305 00	
" Wolfe street	310 00	
" Patapsco street	50 00	
" Johnson street	30 00	
To balance, December 31, 1894	8,251 58	
	$14,423 14	$14,423 14

STATEMENT H.

Showing the Amount Expended in the Annexed Territory.

Accounts.	Appropriations.	Expenditures.	Receipts.	Balance, Dr.	Balance, Cr.
Electric lights	$ 1,277 50	$ 484 75			$ 792 75
Gas	18,000 00	16,640 74			1,359 26
Gasoline	7,404 60	6,902 51			502 09
Lamplighters' salaries	13,633 14	13,845 69		$ 212 55	
Fire Department	45,700 00	45,515 61	$ 5 00		189 39
Cleaning streets	26,085 00	24,474 89			1,610 11
Nuisances	2,900 00	2,743 49			156 51
Health, salaries	3,800 00	3,800 00			
Repairs streets, etc.	22,432 00	22,422 29			9 71
Public schools	138,300 00	136,490 77			1,809 23
Inspector of Buildings, livery	300 00	300 00			
Extra help, Inspector of Buildings	1,240 00	1,240 00			

Repairs city property.	$6,000 00	$5,674 93	.....	.....	$325 07
Smead system, Annex School No. 9.....	2,000 00	2,000 00	.....	.....	.....
Smead system, Walbrook School.....	2,934 00	2,934 00	.....	.....	.....
City Collector, office expenses.....	3,500 00	3,499 92	.....	.....	08
Direct tax.....	.....	.....	$174,632 24	.....	174,632 24
Interest and discount..	.....	3,284 25	4,768 84	.....	1,484 59
Refunded taxes.....	.....	46 96	.....	$46 96	.....
Macadamizing Franklin street.....	.....	90 00	.....	90 00	.....
Fire-plugs at Carroll..	250 00	250 00	.....	.....	.....
Repairs of bridges, Twenty-first Ward..	2,500 00	2,491 25	.....	.....	8 75
Special assessment taxes in the Annex..	1,046 98	1,046 98	.....	.....	.....
Repairing Ninth street.	3,500 00	3,493 98	.....	.....	6 02
Lot for engine house, North avenue and Tenth street.....	2,000 00	1,502 80	.....	.....	497 20
Macadamizing Garrison lane.....	1,000 00	996 70	.....	.....	3 30
	$305,803 22	$302,172 51	$179,406 08	$349 51	$183,386 30

Statement of the Internal Improvement 1928 *Loan.*

	Appropriations.	Amounts expended in 1889.	Amounts expended in 1890.	Amounts expended in 1891.	Amounts expended in 1892.	Amounts expended in 1893.	Amounts expended in 1894.	Receipts in 1892, 1893 and 1894.	Total Expenditures.
Purchase of lot adjoining Eastern Female High School....	$15,642 26	$15,642 26	.....	.....	.....	.....	.....	.....	$15,642 26
Purchase of lot and buildling, Grammar School No. 20....	33,000 00	8,216 07	$24,666 63	.....	.....	.....	.....	.....	32,882 70
Purchase of lot and building, Annex School No. 4.....	26,000 00	5,471 75	20,517 85	.....	.....	.....	.....	.....	25,989 60
Building addition to Primary School No. 11	12,000 00	11,253 76	.....	.....	.....	.....	.....	.....	11,253 76
Purchase of lot and building, Primary School No. 32.....	33,000 00	11,803 15	21,000 00	.....	.....	.....	.....	.....	32,803 15
Purchase of lot and building, Primary School No. 33.....	31,000 00	.....	30,953 80	.....	.....	.....	.....	.....	30,953 80
Purchase of lot and building, Primary School No. 24.....	28,500 00	12,222 65	16,277 35	.....	.....	.....	.....	.....	28,500 00
Building Primary School No. 13.....	21,000 00	7,903 13	13,009 80	$87 07	.....	.....	.....	.....	21,000 00
Purchase of lot and building, Annex School No. 3.....	25,000 00	.....	24,466 22	42 53	.....	.....	.....	.....	24,508 75
Purchase of lot and building, Primary School No. 31.....	23,500 00	2,504 00	20,445 92	.....	.....	.....	.....	.....	22,949 92
Purchase of lot and building, Eng.-Ger. School No. 5.....	40,000 00	15,255 08	24,389 77	.....	.....	.....	.....	.....	39,644 85

Building Grammar School No. 8	$21,000 00	$6,661 75	$14,338 25					$ 21,000 00
Purchase of lot and building, Colored Primary School No. 1	30,000 00						$7,203 00	7,203 00
Purchase of lot and building, Annex School No 13	30,000 00		18,676 94	$11,323 06				30,000 00
Purchase of lot for Colored School No. 3	7,357 74			7,357 74				7,357 74
Building Manual Training School	25,000 00	12,230 68	12,769 32					25,000 00
Purchase of Park in Southwest Baltimore	45,000 00		44,500 00	500 00				45,000 00
Patterson Park extension	200,000 00	14,252 46	54,593 11	70,015 09	$54,291 87	$6,847 47		200,000 00
Carroll Park, repairs	5,000 00			5,000 00				5,000 00
Rebuilding Light-street bridge	160,465 00	7,375 22	94,012 34	56,431 97	2,197 41			160,016 94
Cedar-avenue bridge	60,000 00	682 07	59,282 84					59,964 91
Wilkens-avenue bridge	6,000 00	5,965 34						5,965 34
Russell street bridge	5,000 00		63 94	4,927 49				4,991 43
Monroe-street bridge	28,000 00		171 10	28,068 24				28,239 34
Boston-street bridge	19,000 00	132 57	17,553 98					17,686 55
Preston-street sewer	85,000 00	21,585 95	52,893 15	1,206 16		1,107 25		76,792 51
Mount Royal-avenue sewer	11,000 00	10,223 74						10,223 74
Fulton-avenue sewer	23,000 00	17,063 04	1,691 10	41 04				18,795 18
Ensor-street sewer	5,000 00	4,982 98						4,982 98
Lovegrove-alley sewer	21,000 00			20,299 91	697 42			20,997 33
Wolfe-street sewer	53,700 00	5,643 68	32,016 20	3,888 52	9,922 55			51,470 95
Presbury-street sewer	33,500 00	16,680 59	3,782 71		130 57	10,026 19	2,083 42	32,703 48
Low-street sewer	5,500 00	4,854 58	74 96					4,929 54
Jenkins Run sewer and extensions	88,250 00	3,676 77	32,895 24	46,248 11	5,228 94			88,049 06
Eager-street sewer	53,300 00	5,958 59	35,313 86	8,467 02	46 38			49,785 85

Statement of the Internal Improvement 1928 *Loan.*

	Appropriations.	Amounts expended in 1889.	Amounts expended in 1890.	Amounts expended in 1891.	Amounts expended in 1892.	Amounts expended in 1893.	Amounts expended in 1894.	Receipts in 1892, 1893 and 1894.	Total Expenditures.
Eutaw and Fremont-street sewer	$175,000 00	$ 9,418 99	$ 67,427 95	$ 60,289 68	$ 7,512 93	$ 12,089 79	$ 6,704 10		$ 163,443 44
Pulaski-street sewer	45,000 00	2,580 61	31,853 87	659 98	3,528 37	1,324 96	294 67		40,242 46
Eden-street sewer	36,500 00			26,087 46	30,539 67	1,063 49			57,690 62
Bush-street sewer	370,000 00			5,698 00	39,689 46	124,927 37	39,085 17		209,400 00
Carey-street relief sewer	275,000 00		7,222 40	121,339 18	101,163 41	44,404 98	533 28		274,663 25
Patapsco-street sewer	3,000 00	2,979 65							2,979 65
Patterson Park sewer	35,000 00	33,191 19	237 66						33,428 85
Cross-street sewer	112,000 00		4,339 82	76,017 96	19,837 55				100,195 33
Dolphin-street sewer	12,000 00		11,930 52						11,930 52
Howard-street sewer	16,000 00		4,108 79	11,890 01					15,998 80
Read-street sewer	38,600 00			11,751 88	24,747 30	1,432 54			37,931 72
McHenry-street sewer	17,700 00								
Ann and Gay-street sewer	11,000 00			9,766 83	227 81	58 50			10,053 42
Druid Hill-avenue sewer	190,000 00			10,691 51	54,569 32	78,032 72	46,706 45		190,000 00
By amounts transferred to Druid Hill-avenue sewer, as per Resolution No. 277 of 1894, as follows:									
From Preston-st. sewer, $7,000									
" Eager-st. sewer... 1,000									

From Eutaw and Fremont-st. sewer. 4,500									
" Penn-st. sewer... 5,000									
" Pulaski-st. sewer. 2,500	$20,000 00						$18,088 86		$18,088 86
Fulton-avenue and Eagle-street sewer	48,950 00			$ 4,427 63	$ 44,428 66	$ 69 83			48,926 12
Pulaski and Franklin-street sewer	48,000 00			24,005 30	22,981 28	21 67			47,008 25
Inlets Wolfe-street sewer, transfer from Boston-street bridge, Resolution 29, 1891,				1,203 46					1,203 46
Penn-street sewer	61,000 00				16,275 89	26,182 30	13,272 33		55,730 52
Hoffman street sewer	12,600 00				6,437 93	6,159 56			12,597 49
Inlets, Fulton and Monroe-streets, transfer from Fremont-street sewer, as per Resolution No. 71 of 1894	4,000 00						3,942 19		3,942 19
Inlets, Franklin-street and Woodyear-alley, transfer from Fremont-street sewer, as per Resolution No. 258 of 1894	2,000 00						1,983 35		1,983 35
Paving Cathedral street		$23,391 11	$38,049 13	4,051 26					65,491 50
" Monument street			4,464 58						4,464 58
" Dolphin street			5,051 28		604 95				5,656 23
" streets around Hanover Market	12,000 00		225 92	10,484 66		1,126 72			11,837 30
" Lafayette Market	15,500 00		882 25	13,041 15	1,576 60				15,500 00
" streets around Southern Police Station				2,354 46		259 01			2,613 47
" streets around Richmond Market				8,766 88	788 00		842 74		10,397 62
" Hollins street				11,233 87		1,280 60			12,514 47
" Camden street				4,208 29		468 59			4,676 88

Statement of the Internal Improvement 1928 *Loan.*

	Appropriations.	Amounts expended in 1889.	Amounts expended in 1890.	Amounts expended in 1891.	Amounts expended in 1892.	Amounts expended in 1893.	Amounts expended in 1894.	Receipts in 1892, 1893 and 1894.	Total Expenditures.
Paving Sharp street				$ 3,646 66		$ 415 40			$ 4,062 60
" Mulberry street					$ 12,977 05	88 56	$ 1,309 87		14,375 48
" Broadway					182,540 35	2,316 27	19,725 81		204,582 43
" Lafayette avenue					81,501 44		9,104 94		90,606 38
" West Lexington street					64,781 12	21,384 12			86,165 24
" Eutaw street					86 00	29,763 58			29,849 58
" Pennsylvania avenue	$ 128,000 00				69,812 76	58,092 05			127,904 81
" Columbia avenue					87,471 36	11,964 68			99,436 04
" Calvert street					23,961 91	9,755 59	2,370 38		36,087 88
" Fayette and Lexington streets					3,627 26	3,475 32			7,102 58
" Chase street					10,585 34		1,049 68		11,635 02
" Arlington avenue and other streets					17,092 88		1,967 18		19,060 06
" South street	2,600 00				2,500 07				2,500 07
" Hanover street					10,658 75	63,521 47			74,180 22
" East Baltimore street	8,000 00				2,995 17	3,593 78			6,588 95
" East Lexington street					14,687 40	21,096 52			35,783 92
Widening East Baltimore street	250,000 00	$ 658 69	$ 1,566 45	200,988 10	23,504 18	26 00		$ 58,523 09	168,220 33
Widening Fayette street	550,000 00	681 51	100 90	4,514 15	729,293 67	148,686 18	47 30	328,199 12	555,124 59
Opening Douglas street	400,000 00		158,217 97	336,777 15				121,521 66	373,473 46
	$4,183,165 00	$301,143 61	$1,006,035 87	$1,227,799 46	$1,785,500 98	$691,063 06	$176,314 72	$508,243 87	$4,679,613 83

Statement of the Public Improvement 1940 *Loan.*

	Appropriations.	Amount expended in 1893.	Amount expended in 1894.	Receipts.	Total Expenditures.
Purchase of lot and building Western Female High School	$ 135,000 00	$ 30,669 66	$ 35,226 34		$ 65,896 00
Purchase of lot and building Male and Female Grammar School, Annex	30,000 00	5,340 89	23,971 99		29,312 88
Purchase of lot and building for No. 4. School, Biddle street	15,000 00	15,000 00			15,000 00
Purchase of lot and building Baltimore City College	200,000 00	30 00	50,015 00		50,045 00
Purchase of lot and building English-German School No. 6	35,000 00		7,545 48		7,545 48
Building addition to Annex School No. 9	9,000 00	6,110 66	2,889 34		9,000 00
Purchase of lot for Primary School No. 4	9,000 00		9,000 00		9,000 00
Topographical and Geodetic Survey	125,000 00	40,419 71	63,555 31		103,975 02
Underground Telegraph and Telephone wires	100,000 00	529 91	13,878 90		14,408 81
Purchase of ground and building new Court House	1,750,000 00	158,182 69	199,618 11		357,800 80
Building Baltimore-street bridge	37,000 00	33,076 55			33,076 55
" Ramsay-street bridge	25,000 00	27,695 50	6,227 95		33,923 45
" Edmondson avenue bridge	30,000 00	162 00	12,656 19		12,818 19
" Monroe-street bridge	12,700 00	20 00	3,462 89		3,482 89
" North-avenue bridge	341,000 00	104,018 50	206,238 22		310,256 72
" Maryland-avenue bridge	20,000 00	394 11	14,333 20		14,727 31
" Columbia-avenue bridge	27,000 00		4,380 75		4,380 75
Mosher-street sewer	5,000 00				
Druid Hill-avenue sewer	15,000 00		1,929 53		1,929 53

Union-avenue sewer	$ 12,500 00	$ 12,284 28	$ 201,49	$ 12,485 77
Federal-street sewer	43,700 00	13,233 10	18,134 46	31,367 56
Monroe-street sewer	8,000 00	7,954 76		7,954 76
Patapsco-street sewer	25,400 00	17,113 85	7,401 94	24,515 79
Race-street sewer	2,000 00	1,554 70		1,554 70
Fremont-avenue sewer	113,200 00	150 00	24,038 51	24,188 51
West-street sewer	8,000 00	3,555 46		3,555 46
Fort-avenue sewer	66,000 00		14,275 78	14,275 78
Bruce-alley sewer	78,700 00		22,566 41	22,566 41
Barclay-street sewer	4,000 00		3,736 59	3,736 59
Charles-street sewer	91,800 00	2,188 64	24,768 02	26,956 66
Bush-street sewer	161,000 00		158,417 25	158,417 25
Patapsco-street sewer extension	52,000 00		17,770 36	17,770 36
Orleans-street sewer	8,000 00		3,391 44	3,391 44
Paving Frederick avenue	155,000 00	75,541 05	948 20	76,489 25
" Gay street	166,000 00	731 08	93,536 63	94,267 71
" Light street	135,000 00	11,097 00	80,836 23	91,843 23
" Franklin street	42,000 00	330,73	2,369 52	2,700 25
" St. Paul street	150,000 00	64,841 15	48,336 11	113,177 26
" Eager street	45,000 00	24,966 18	59 18	25,025 36
" Aliceanna street	76,000 00	3,976 15	2,617 68	6,593 83
" Front street	50,000 00	20,155 46	472 30	20,627 76
" Poppleton street	52,000 00	3 3 75	50,906 35	51,210 09
" East Baltimore street		78,866 84	23 00	78,889 84
" East Chase street		100,114 34	395 30	100,509 64
" Maryland avenue	60,000 00	28,711 01	40 50	28,751 51
" Charles-street avenue	60,000 00	151 05		151 05
" Boston street	105,000 00	5,720 33	88,151 68	93,872 01
Macadamizing West North avenue	6,500 00	6,433 05		6,433 05
Paving Saratoga street	62,000 00	51,910 18	20 52	51,930 70
" Fort avenue	100,000 00	7,465 04	46,716 21	54,181 25
" Read street	22,000 00	21,797 15		21,797 15
" Holliday, Pleasant, Hillen, etc., streets	180,000 00	5,555 06	130,067 53	135,622 59
" Lafayette avenue		29,839 36	84 00	29,923 36

Statement of Public Improvement 1940 *Loan.*

	Appropriations.	Amount expended in 1893.	Amount expended in 1894.	Receipts.	Total Expenditures.
Paving Broadway					
" Calhoun street					
" Aisquith street					
" Calvert street	$ 8,000 00	$ 4,830 82			$ 4,830 82
" Concord street	43,000 00	36,051 69	$6,246 74		42,298 43
" Davis street	20,000 00	233 50	52 00		285 50
" Eastern avenue	70,000 00				
" Pratt street			153,738 78		153,738 78
" Pleasant street	7,500 00		2 56		2 56
" Park avenue, Lanvale to North avenue	31,000 00				
" Patterson avenue					
" Pearl street					
" Water street	15,000 00				
Straightening and paving Eutaw street	1,200 00	1,195 00	5 00		1,200 00
Paving Fayette street		10 00	33,279 34		33,289 34
" around Hanover, Lexington and Richmond Markets	41,789 95	41,766 27	5 00		41,771 27
" McCulloh street			24,350 81		24,350 81
" Park avenue, Lexington to Howard	75,000 00		3,597 08		3,597 08
" Clay street	15,000 00				
" Madison street			12,419 04		12,419 04
" Biddle street	2,000 00		1,943 72		1,943 72
Opening McCulloh street	79,405 37	128,731 75	12,459 90	$63,533 64	77,658 01
Widening Union Dock	48,994 97	59,450 93		11,212 75	48,238 18
	$5,519,390 29	$1,290,370 89	$1.743,312 35	$74,746 39	$2,958,936 85

THIRTY-FIFTH ANNUAL REPORT

— OF THE —

COMMISSIONERS

— FOR —

OPENING STREETS

— TO THE —

MAYOR AND CITY COUNCIL OF BALTIMORE,

— FOR THE —

FISCAL YEAR ENDING DECEMBER 31, 1894.

REPORT.

OFFICE OF THE COMMISSIONERS FOR OPENING STREETS.

BALTIMORE, January 1, 1895.

To the Honorable the Mayor
and City Council of Baltimore:

GENTLEMEN:

We have the honor to submit to you a statement of the operations of this Department, from January 1, 1894, to December 31, 1894, inclusive.

The following list comprises the streets, alleys, etc., condemned, opened and closed during the above stated time; also the amount of damages, expenses and benefits and amount assessed to the Mayor and City Council for each and every street, etc., as follows:

OPENED.

Name of Streets, etc.	No. Ord.	Approved.	Damages.	Expenses.	Benefits.	Amount on the City.
Madison street, from Patterson Park avenue to Washington street	111	June 2d, 1890	$17,605 94	$558 00	$12,009 40	$ 6,154 54
Madison street, from Patterson Park avenue to Grove alley	132	May 8th, 1893	21,899 00	723 93	20,845 81	1,777 12
Fulton avenue, from its southern terminus to Carroll Park	105	May 3d, 1893		346 60	346 60	
Bruce alley, from Baker street to North avenue	181	May 3d, 1893	1,025 00	332 51	1,165 75	191 76
Northwest street, from Calhoun street to Fulton avenue	176	May 22d, 1893	6,619 20	310 78	5,173 50	1,756 48
Forrest street, between Douglas street and Fayette street	97	May 25th, 1891	22,036 58	916 36	4,819 50	18,133 44
Gay street, widening between Exeter street and Jones' Falls	106	October 17th, 1892	212,699 57	2,558 31	81,109 53	134,148 35
Dallas street, from Oliver street to Lanvale street	50	May 1st, 1891	4,165 93	462 05	2,258 64	2,369 34
Totals			$286,051 22	$6,208 54	$127,728 73	$164,531 03

CLOSED.

Name of Streets, etc.	No. Ord.	Approved.	Damages.	Expenses.	Benefits.
Fourth street, south of Fort avenue	118	May 3d, 1893	$785 85	$474 15	$1,260 00
Courthouse lane, from St. Paul street to Calvert street	122	November 17th, 1894		306 48	306 48
Totals			$785 85	$780 63	$1,566 48

Streets, Alleys, Etc., in Process of Opening.

Streets, Alleys, Etc., in Process of Opening.

Name of Street.	No. of Ordinance.	Approved.
Clement street, from Lawrence street to Hull street	136	June 4, 1880
Morton alley, from John street to Hoffman street	96	May 25, 1882
An alley ten (10) feet wide, from the north side of McElderry street to an alley ten (10) feet wide, now open, between Eden street and Spring street	97	Oct. 20, 1883
An alley ten (10) feet wide, from the north side of Orleans street to the south side of Jefferson street, between Central avenue and Eden street.	97	Oct. 20, 1883
An alley nine (9) feet nine (9) inches wide, from the north side of Monument street to an alley (10) feet wide, between Eden street and Spring street	97	Oct. 20, 1883
An alley ten (10) feet wide, from the south side of Monument street to an alley ten (10) feet wide, now open, between Caroline street and Spring street	97	Oct. 20, 1883
An alley ten (10) feet wide, from the north side of Madison street to the south side of Chew street, between Caroline street and Dallas street.	97	Oct. 20, 1883
An alley twelve (12) feet wide, in the centre of Kirby's or Dorsey's lane, from Lanvale street to the Harlem Stage Company's property	33	April 3, 1884

Patuxent street, from Monument street to Eastern avenue	47	April 29, 1884
Clarkson alley, from Barney street to Moale street	112	May 29, 1884
Race street, from Barney street to Moale street	113	May 29, 1884
Henry street, from Clement street to Fifth lane	77	May 14, 1885
Beason street, from Decatur street to the property of H. A. Ramsay & Co	93	Oct. 17, 1885
South Paca street, from Stockholm street to West street	23	April 6, 1887
Patapsco street, from Baltimore street to Monument street	81	May 17, 1887
Port alley, from Aliceanna street to Lancaster street	86	May 18, 1887
Elizabeth lane, from Randall street to Heath street	54	May 2, 1888
Dallas street, from Oliver street to Hoffman street	115	Oct. 16, 1888
Rope Walk lane, from Randall street to Heath street	36	April 26, 1889
Towson street, from Fort avenue to Marriott street	70	May 23, 1889
Patterson avenue, from Fulton avenue to Monroe street	98	June 8, 1889
Florence street, from Fulton avenue to Retreat street	99	June 8, 1889
Francis street, from Retreat street to Whitelock street	101	June 8, 1889
Morris alley, from North avenue to Druid Hill Park	103	June 8, 1889
Bouldin alley, from Laurens street to Wilson street	110	June 10, 1889
Stoddard alley, from Mosher street to McMechen street	148	Oct. 9, 1889
An alley ten (10) feet wide, from McKim street to Hillman street	149	Oct. 9, 1889
Baltimore street, from its present terminus to the western city limits	150	Oct. 15, 1889
Nicholson street, from Decatur street to Cooksie street	161	Oct. 28, 1889
Burke street, from Oliver street to Belair avenue	162	Oct. 28, 1889
Porter street, from Claggett street to Beason street	171	Oct. 27, 1890
Ridgely street, from Ostend street to Gwynn's Falls	77	May 8, 1891

Streets, Alleys, Etc., in Process of Opening.—Continued.

Name of Street.	No. of Ordinance.	Approved.
Lanvale street, from Patterson Park avenue to Cannon street	87	May 20, 1891
Luzerne street, from Hudson street to Boston street	91	May 23, 1891
All the property between East street and Chestnut street, from the north side of Fayette street to a point 147 feet northwardly from the north side of Douglas street	95	May 25, 1891
An alley ten (10) feet wide, from Second street to First street, between Calvert street and Hargrove alley	111	June 4, 1891
Ducatel street, from Madison avenue to Bolton street	121	June 13, 1891
Wolfe street, from North avenue to Lake avenue	123	June 16, 1891
Payson street, from North avenue to Clifton avenue	130	June 23, 1891
Pulaski street, from North avenue to Clifton avenue	131	June 23, 1891
Ensor street, from Eager street to Chase street	44	April 4, 1892
Ludlow street, from Claggett street to Fort avenue	72	May 4, 1892
West street, from Paca street to Burgundy alley	94	May 11, 1892
Burrow street, from Fort avenue to Claggett street	95	May 27, 1892
An alley fifteen (15) feet wide, from Gold street to Bloom steet	23	March 6, 1893
Nanticoke street, from Bayard street to Bush street	80	April 20, 1893

Cleveland street, from Bayard street to Bush street	87	April 20, 1893
Chew street, from Chester street to Patterson Park avenue	88	April 20, 1893
Carroll street, from Bayard street to Bush street	89	April 20, 1893
Chase street, from Patterson Park avenue to Grove alley	114	May 3, 1893
Lanvale street, from Wolfe street to Washington street	130	May 8, 1893
Fairmount avenue, from Luzerne street to eastern city limits	131	May 8, 1893
A street seventy (70) feet wide, from Luzerne street to eastern city limits.	133	May 8, 1893
Townsend street, from Broadway to Washington street	165	May 12, 1893
Smallwood street, from Pratt street to Fayette street	179	May 22, 1893
Castle street, from North avenue to Lanvale street	12	July 3, 1894
Neighbor street, from McKim street to Greenmount avenue	106	May 28, 1894
Alluvian street, from Ridgely street to Warner street	101	May 25, 1894
Brunt street, from Laurens street to Robert street	100	May 25, 1894
Bayard street, from Columbia avenue to Ohio avenue	54	April 20, 1894
Cannon street, from Lancaster street to Eastern avenue	48	April 16, 1894
Rose street, from Fairmount avenue to Monument street	46	April 12, 1894
Luzerne street, from Canton avenue to Eastern avenue	45	April 12, 1894
Windsor avenue, from North avenue to Clifton avenue	26	Mar. 20, 1894

Streets, Alleys, Etc., in Process of Closing.

Name of Street.	No. of Ordinance.	Approved.
Point lane, from Ensor street to North avenue	84	May 23, 1882
Kirby's or Dorsey's lane, from Lanvale street to the Harlem Stage Company's property	94	Oct. 20, 1883
An alley from Madison street to an alley ten (10) feet wide, between Eden street and Spring street	97	Oct. 20, 1883
V alley, between Barre street and Welcome alley	91	Oct. 8, 1885
Kirby's or Dorsey's lane, excepting twelve (12) feet in the center thereof, from the south side of the Harlem Stage Company's property to the south side of Winchester street	104	July 3, 1886
Kirby's or Dorsey's lane, excepting twelve (12) feet in the centre thereof, from Lanvale street to the Harlem Stage Company's property	116	Sept. 17, 1886
Butcher's lane, from Calhoun street to North avenue	61	May 2, 1888
Fourth Lane, from Hanover street to Light street	22	Mar. 29, 1889
Brown's lane, from Eden street to Caroline street	111	June 10, 1889
Truxton street, from Forrest street to Concord street	111	Oct. 17, 1892
Clifton place, from Truxton street to Eager street	111	Oct. 17, 1892
Grove street, from Truxton street to Eager street	111	Oct. 17, 1892

Half Moon alley, west of Chestnut street	96	May 25, 1891
Comet street, from a ten-foot alley to a fence corner there situated	105	May 27, 1891
An alley thirty-three (33) feet wide, from the York road to about one hundred and thirty-three feet south of Huntingdon avenue	25	March 6, 1893

Respectfully submitted,

SAMUEL F. SHARRETTS,
LOUIS BECK,
JAMES R. BREWER,
Commissioners.

ROBERT F. GREEN,
Clerk.

ANNUAL REPORT

OF THE

CITY LIBRARIAN

TO THE

Mayor and City Council of Baltimore,

FOR THE

FISCAL YEAR ENDING DECEMBER 31, 1894.

REPORT.

CITY LIBRARY,

BALTIMORE, MD., December 31, 1894.

To the Honorable the Mayor
and City Council of Baltimore:

GENTLEMEN:

I respectfully submit the following report for the current year of the business of this department, showing in detail all transactions.

In my report of 1893 I published a letter from Mr. Thaddeus P. Thomas, of the Woman's College, requesting access to the city documents in this library for the purpose of preparing in pamphlet shape "The Early History of Municipal Government in Baltimore," and I now have pleasure in stating that Mr. Thomas spent much time during the past year in gathering his data from both the manuscript and printed archives in this library, and is now occupied in putting the same in shape for the printer.

I quote a letter from him dated the 3d ultimo, viz.: "I am preparing for publication a brief monograph on the history of the government of Baltimore City. The

work is done under the supervision of Dr. H. B. Adams, of the Johns Hopkins University. The chief object is to trace the changes in the executive, legislative and judicial methods since the founding of Baltimore town. The monograph will close with a summary of the laws which regulate the city government at the present time."

In this connection I will again reiterate former recommendations that better provision be made for the care and preservation of the early manuscript records of our city, and that they should be properly edited and published.

Again I feel it my duty to repeat that more room, and a greater concentration of the books, papers and archives of this department is necessary to have them properly classified, filed and indexed, and, besides, that more shelves, cases, racks and files are needed to properly preserve them as soon as the room can be had. All the rooms and cases at present are overcrowded.

My last annual report showed that this library contained a total of 25,562 volumes of manuscript and printed documents, and since then we have added 1989 more by contribution, exchanges and purchase, making the total at present 27,551. Deduct 394 volumes of codes, ordinances and resolutions, public local laws, annual reports, and the journals of the Council issued, and that will show a balance of books and pamphlets on hand of 27,157.

The telephone authorized by the last Council has

been found most useful both to this department and to its officials in saving time and in dispatching business as I predicted it would.

During the year I have been fortunate enough to secure copies of the Laws of Maryland for the years 1823 and 1824, thus completing our files from 1637 to 1894, covering a space of 257 years. In addition to this I obtained city directories for the years 1802, 1814–15, 1822 and 1831–2, that completes our set with the exception of the copy for the year 1852, if as I learn from the city directory that there were no publications for the years 1805-6-7-9-11-13-17-20-21-25-26-28-30-34-39-43-44-46, and 1861-2 and 3, and if any of these years have been published then they will be required to complete our files.

At the sale of the late Hon. S. Teakle Wallis I purchased very cheaply a number of valuable books and pamphlets relating to our State and city, that were very necessary to have upon our shelves, and for a list of which I beg to refer you to the heading hereinafter titled "Books purchased." At this point I will respectfully make the suggestion that I think it would be well for the Mayor and City Council to make a special standing appropriation of at least $500 to the credit of the Librarian for the special purchase of such books and documents of value that relate to either the history of our State or city, and which are essential to have for the reason of their historical relations to both. The appropriation should be special and standing for the reason there is no telling when the owners of such documents may die, or how soon and when their libraries will be sold. I would suggest that such special

fund be subject to the warrant of the Librarian upon approval of the Mayor, for the specific purposes herein named.

There were six proposals for supplying the several departments of the city government with stationery, blank books and printed matter for the year 1895, viz.: Schaefer & Herold, James Young, King Bros., Wm. T. Hanzsche, J. W. Bond & Co., and the Wm. J. C. Dulany Co., the latter being the lowest bidders, were awarded the contract at $9,549.51.

During the year there have been 2,254 visitors to the library, of whom 598 registered their names. There were in addition 4,231 business calls from the departments and the public. The former made 467 requisitions for stationery, printing and books of record, the cost of which will be found charged to the various officers in an annexed statement.

ADDITIONS TO THE LIBRARY.

The following books, documents etc., have been received during the year: Austin, Tex., Annual Reports, 1893; Alleghany, Pa., Annual Reports, 1893-4, and Comptroller's Reports, 1893-4; Atlanta, Ga., Annual Reports, 1893; Bridgeport, Conn., Municipal Register, 1893; Brooklyn, N. Y., Message and Reports, 1893; Buffalo, N. Y., Comptroller's Report, 1893; Boston, Mass., Auditor's Report, 1893-4, and Reports Street Department; Charleston, S. C., Year Book 1893, (2 copies); California, How Members of Congress are Bribed; Concord, N. H., Message and Reports, 1893; Cincinnati, O., Annual Reports 1892, 1893, Mayor's Message, 1894; Detroit, Mich., Annual Reports 1892, Annual Report Public

Library, 1890-91, Annual Report Police Commission 1892, Mayor's Message 1894, Comptroller's Report 1893; Easton, Pa., Department Reports, 1894; Hartford, Ct., Year Book, 1893 and 1894; Kansas City, Mo., Report Park Commission, 1893; Lynn, Mass., City Documents, 1893; Louisville, Ky., Annual Reports, 1892; Milwaukee, Wis., Department Reports, 1893; Massachusetts Board of Health Reports, 1892; Michigan State Board of Health, 1891, Abstract Proceedings State Board of Health, 1894, Proceedings Sanitary Convention at Menominee, April, 1894; Proceedings Sanitary Convention, Hillside, 1893, Restriction and Prevention of Dangerous, Communicable Diseases, Summary Typhoid Fever Reports, Injuries and Loss of Life and Property by use of Kerosene Oil, Comparative Immunity of Adults from Diphtheria, Health Exhibits at Exposition, Proceedings of State Board of Health, 1883 and 1894, Prevention of Consumption, Achievments of Sanitation, Measles in Michigan, Tyrotoxicon in Michigan, Ventilation, The Causation of Influenza, Dangerous Railway Crossings, Proposed Abolition of State Board of Health; Newark, N. J., Annual Reports, 1892; Newport, R. I., City Documents, 1893; Mayor's Inaugural Address, 1894; New York City, Mayor Gilroy's Message, 1894 and Comptroller's Report, 1892, D. Van Nostrand & Co., Catalogue of Scientific, Military and Naval Publications, Steam and Steam Engines, Machinery, Mechanics and Mechanical Engineering, Chemistry, Chemical Technology and Physics, Electricity, Electric Light, Telephone, Electrical Motors, Telephones, etc., Address to Students of Rock Hill College, 1894; New Haven, Conn., Year Book, 1893; Omaha, Neb., Annual Reports, 1893; Philadelphia, Pa., Annual Reports, 1893, Citizen's Relief Committee, 1893; Providence, R. I., City Documents, 1893, (2 vols.),

Mayor's Inaugural Address, 1894; Portland, Me., Municipal Reports, 1893-94; San Francisco, Cal., Municipal Reports, 1892-93; Salt Lake City, Utah, City Reports, 1892; Savannah, Ga., Municipal Reports, 1893; St Louis, Mo., Message and Documents, 1893-94; St. Paul, Minn., Annual Reports, 1893; Toledo, O., Annual Reports, 1893; Washington, D. C., Reports Commissioners District of Columbia, 1892; Wilmington, Del., Charter, Laws and Ordinances, 1893.

FOREIGN REPORTS.

Argentine Republic—Sanitary Institutions, Educational Reports, History of the Country and its Advantages, and La Provincia de Eutre-Rios.

Berlin—Municipal Reports, 1892-3; Census of the City of Budapest, 1894; Statistics of Infectious Diseases, 1894.

Canada—Annual Reports City of Montreal, 1892, and Report Fire Relief Committee, 1892; City of Toronto, Annual Report Board of Health, 1893, Consolidated Health Laws, Municipal Assessment Acts, 1892, Consolidated By-Laws, 1890, Annual Reports City Engineer, 1892, Agreement Between the City and the Telephone, Gas and Railway Companies, and Annual Report City of Halifax, 1892-93.

Paris, France—Council Proceedings, (2 vols.), 1888; Receipts and Expenditures, (2 vols.), 1887, 1888; Appropriations, 1889, 1890, and Reports and Documents, 1887.

Japan—General View of the Commerce and Industry of the Empire, Descriptive Catalogue of the Fisheries of Japan, Report of the Chamber of Commerce of the Empire, and The Mahayana as Taught by Buddha.

Ireland—Accounts of Harbor Commission of Belfast, 1892.

FEDERAL PUBLICATIONS.

Agricultural Department—Annual Report Chief of the Weather Bureau, 1891-92, 1893; Report Weather Bureau Protection from Lightning, 1892; Food Products, Parts 1, 2 and 3, Microscopist, 1892, and also Report Chief of Division of Microscopy, 1893.

Congressional Reports—We are indebted to Senator Daniel W. Vorhees, Chairman Committee on Finance U. S. Senate, for the following bulletins of that committee on the tariff, viz.: Nos. 1 to 4, and 12 to 51, embracing the following subjects: Collectors of Customs Concerning Duties Ad Valorem and Specific on Imports; Replies to Enquiries Concerning the Manufacture of Chemicals, Oils and Paints, Metal, Wood, Sugar, The Sugar Schedule, Tobacco, Agricultural Products and Provisions, Spirits, Wines and other Beverages, Cotton, Flax, Hemp, Jute and Wool; To Reduce Taxation to Provide Revenue; Wilson Tariff Bill; Income Tax and Increase on Spirits; Repeal Federal Election Laws; Election of Senators and Terms of United States Judges.

Bureau of Education—Catalogue of the "A. L. A." Library; History of Education in Connecticut, by Bernard C. Steiner, 1893; Higher Education in Iowa, 1893, and Higher Education in Tennessee, 1893.

Department of Labor—Special Report Compulsory Labor, 1893, and Annual Report Commissioner of Labor on Industrial Labor, 1892.

Inter-State Commerce—Annual Report of the Commission, 1893.

Interior Department—Annual Report Commissioner of Labor, 1892; Report Industrial Education; Extra Census Bulletin Moqui Pueblo Indians of Arizona and New Mexico; Spelling Reform, 1893; History of Education in Delaware, 1893; Report School Studies, 1892; Special Report Relating to Public Documents, 1894; Annual Report Secretary, 1894, and The Five Civilized Tribes in the Indian Territory, 1894.

Civil Service—Ninth Annual Report of Commission, July 1891 to June 30, 1892.

State Department—Consular Reports Nos. 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170; General Index to Vols. 32 to 41, Nos. 112 to 151; Special Consular Reports Olive Culture in "Alpos Maritimes," Vagrancy and Public Charity in Foreign Countries, Special Report for the Extension of Markets for American Flour, 1894, and American Lumber in Foreign Markets.

Public Printer—Annual Report, 1892-93.

Treasury Department—Quarantine Laws and Regulations, 1894.

War Department—Army Register, 1894; Report Chief of Ordnance, 1893; Report Chief Engineer, 1893, Parts 1, 2, 3, 4, 5, 6, and Report Acting Judge Advocate General, 1894.

STATE PUBLICATIONS.

Governor Brown's Message, 1894; Annual Report Maryland Hospital for Insane, 1893; Eleventh Annual

Report Industrial Home for Colored Girls, 1893; Twenty-fifth Annual Report St. Mary's Industrial School for Boys, 1893; Report Visitors Asylum Feeble-Minded, 1889, 1891, 1893; Fifty-first Annual Report Mt. Hope Retreat, 1893, and Report Maryland Institute, 2 (copies), 1894.

From State Librarian: Laws of Maryland, 1894, and Maryland Reports, Nos. 74 and 75.

From Insurance Department: Commissioner's Annual Report, 1893.

From Prof. Charles W. Ely: Annual Reports Maryland School Deaf and Dumb from September, 1868, to 1893 (19 vols.) inclusive, and also By-Laws and History of the School.

From Maryland Institute: Transactions for Years 1852 to 1854, 1856 to 1857, 1858 to 1859, 1860 to 1861; Address Hon. J. H. B. Latrobe, March, 1876; Annual Report, April, 1879; Report of Dinner to Joseph M. Cushing, 1887; Excerpt of Transactions, 1892, and Annual report, 1893.

CITY PUBLICATIONS.

City Register—Have received from his department the following manuscript and printed documents: Bank books—Two of the Bank of Baltimore, 1890, 1891; 2 of Farmers' Bank, August, 1889, to March, 1893; September 18 to September 12, 1889; 1 National Mechanics', 1890, to December, 1891; 3 Merchants' National, 1888 to 1890, 1890 to November 1891, 1889; 3 Farmers and

Planters', March, 1859, to February, 1866, 1866 to December, 1889, August, 1889, to December, 1892.

Check Stubs: 4 National Mechanic Bank Books, August, 1892, to April, 1893, Nos. 3,001 to 4,500; April, 1893, to August, 1893, Nos. 4,501 to 6,000; August 1, 1893, to April 10, 1894, Nos.6,001 to 7,500; April 10, 1894, to July 31, 1894, Nos. 7,501 to 9,000; three Farmers and Planters' Books, October, 1892, to September, 1893, Nos. 1 to 1,500; September, 1893, to December, 1893, Nos. 1,500 to 3,000; December 21, 1893, to May 24, 1894; Nos. 3,001 to 4,500. Three Merchants' National Books, October, 1892, to May, 1893, Nos. 4,501 to 6,000; May to September, 1893, Nos. 6,001 to 7,500; September 19, 1893, to May 18, 1894, Nos. 7,500 to 9,000; Farmers and Merchants' National Bank, November, 1893, to June, 1894, Nos. 9,001 to 10,500; June, 1894, to November, 1894, Nos. 1 to 1,500.

Interest Books—Six Per Cent. Sinking Fund, November, 1888, to May, 1893; 2, 5 Per Cent. Water Stock, October, 1891, to August, 1893, February, 1892, to April, 1893; Six Per Cent. Temporary Water Loan, April 25 to June 5, 1873; Exempt Loan, 1893, June, 1891, to August, 1893; 4 books Exempt Loan, 1893, unused; Defence Loan, 1893, March 18, 1885, to June, 1893; 2 books Consolidated Six Per Cent., 1890.

Receipts—Consolidated Six Per Cent., 1890, Nos. 501 to 750; Jones Falls Five Per Cent., December, 1886, to August, 1893, August, 1893, to August, 1894; Internal Improvement 1928 3½ Per Cent., January to November, 1893; 2 Baltimore City Stock, 3½ Per Cent., December,

1892, to July, 1893, and January 25 to July, 1894. Bank Statements: Four packages National Farmers' Bank, 1891, 1892 and 1893; 1 package National Mechanics' Bank, April to August, 1893; 1 package Farmers and Merchants' National Bank, 1892, and 3 packages Merchants' National Bank, 1892.

Stock Receipts—Three packages, 1891; 13 of 1892, and 11 of 1893. Stock Receipt Books, November, 1888, to May, 1889; May, 1889, to November, 1889; November, 1889, to February, 1890; February, 1890, to June, 1890, and June to November, 1890.

Register's Checks: 1892 to 1893.

Department of Finance Checks: 1870 to 1893; Check Stubs, July, 1890, to October, 1893, Nos. 1868 to 2456.

Mayor's Messages; Register's and Finance Commissioners' Reports (60 copies) for the years 1879, 1884, 1885, 1887, 1888, 1889, 1891 and 1892. Register's Reports, 1889 (5), 1890 (62), 1891 (81), 1892 (51); also three copies of Stephen Little's Report of the Financial Condition of the Western Maryland Railroad.

Certificates of Stock: Stubs Baltimore City Stock, 1930, Nos. 2501 to 2750; Four Per Cent. Western Maryland Loan 1925, Nos. 246 to 485, July, 1884, to May, 1894; Western Maryland Loan, Nos. 720 to 943, October, 1890, to September, 1894; Five Per Cent. Water Stock, Nos. 6243 to 6472, April, 1893, to January, 1894; Three and a-half Per Cent. Public Improvement 1940, Nos. 1 to 250, April, 1893, to January, 1894; Three and

a-half Per Cent. Internal Improvement 1928, Nos. 1205 to 1946, November, 1893, to December 5, 1894; City Hall Six Per Cent. Stock 1900, Nos. 2056 to 2283, December, 1890, to October 5, 1894; 1 box Comptroller's Warrants, 1893; 2 boxes Orders of Court and Cancelled Certificates 1890 and 1891; 10 books Six Per Cent. Water Stock (1894) in blank, and 1 book Six Per Cent. Corporation Stock (1890) unused.

Mayor's Office—The following documents have been received from his Honor Mayor Latrobe: Chicago Steel and Wood Pavements; Cable and Electric Motive Power on Street Railways Compared; Parks and Tree-Lined Avenues; History of the Anthracite Coal Fields in West Virginia; Financial Reports 1887, 1888, 1890 and 1891; Rules of Order Commissioners of Public Schools; Messages (22) 1893; Tenth Bi-Annual Report State Board of Health, 1893; Maryland Hospital for the Insane, 1893; Industrial Statistics, 1893; Report Maryland Penitentiary, 1893; Report Female House of Refuge, also Charter and By-Laws, 1892; House of Reformation Colored Boys, 1893; Industrial Home for Colored Girls, 1893; Board of Trade, 1892 and 1893; McDonogh School (Founder's Day) 1893; Johns Hopkins University Report, 1893 and 1894; Land Office Report, 1891-93; St. Mary's Industrial School for Boys (25th), 1893; State Board of Practical Plumbing, 1893; Sheppard Asylum, 1892 and 1893; Pratt Library (8th), 1893; House of Refuge (43d), 1893; Asylum Feeble-Minded (3d), 1893; Fire Underwriters' Special Committee Report, 1894; Lunacy Commission (8th), 1893; Talks on Taxation in Maryland (McSherry), 1893; Merchants and Manufacturers' Association, 1892; Maryland School Deaf and

Dumb (8th), 1891–93; Maryland, Its Resources, etc., A. S. Abell Co. (3 copies), 1893; American Engine Company; Congress Road Department; Sturtevant's Systems of Building, Heating and Ventilation; Manual of Investments (Williams), 1890; Laws of Vermont, 1892; Disposal of Garbage (W. F. Morse), 1893; Pennsylvania Training School Feeble-Minded, 1893; Granite Pavements; Deaf, Method of Instructing, 1893; Views William G. O'Brien on Streets; Speech of Honorable Arthur P. Gorman, 1894; Officers, Committees, etc., Merchants and Manufacturers' Association; Birdseye View Virginia, Maryland and Delaware, and District of Columbia; Ceremonies, Dedication Masonic Temple, 1893.

Inspector of Buildings—Permit Book, 1886 to 1889; 3 Warrant Books, 1889–90, 1890–91, 1892–93; 2 Bath Permit Books, 1889–90 and 1891–92; 3 Permits for Sheds, 1889 to 1892; 1 Permit for Boilers, 1878 to 1890; 2 Ledgers, 1886 to 1889; 1 Book Notice to Make Repairs, 1882 to 1889; 2 Books of Resolutions, 1887 to 1891; 2 Packages Ordinances and Resolutions; 6 Packages Bills, etc., 1885 to 1892; 1 Package Protests; 1 Package Complaints; 1 Package Bonds and Contracts, 1884 to 1892; 1 Package Building Applications, 1892.

Water Department—2 Cash Books, 1883 and 1891; 12 Cash Books, "Odd," 1887, 1888 and 1889; 12 Cash Books, "Even," 1887, 1888 and 1889; Meter Cash Books, 1887–88 and 1890; Plumbing Cash, 1887 to 1889; 5 Delinquent Books, 1888; 15 Supply Books, 1883 to 1891; 7 Turn-On Books; 12 Turn-Off Books; 11 Plumbing Day-Books, 1875, 1879 to 1888; 9 Ledgers, 1876, 1880 to

1887; 1 Re-open Pipe Book, 1890 to 1892; 6 Arrearages Books, 1874 to 1879; 5 Copies Aunual Reports, 1893.

Park Commission—8 Warrant Books, years 1861, 1877–8, 1881, 1881–3, 1883–5, 1885–7, 1887 to 1890, 1890–91; Requisition Books, 1867 to 1874; First National Bank Check Stubs, 1870 to 1877; Cash Books, 1872 to 1874; Time Books, 1872 to 1875, 1875 to 1879; Message and Reports, 1871, 1874, 1875, 1881 to 1890; City Codes, 1869 (2), 1876; City Directories, 1875, 1880; First Branch Journals, 1875–6, 1877–8, 1878–9, 1879–80, 1881–2, 1883–4, 1884–5, 1885–6, 1887–8, 1889–90; Second Branch Journals, 1875–6, 1877–8, 1878–9 to 1889–90, inclusive; Annual Reports, 1893 (2 copies).

Fire Department—Pay Rolls and Vouchers, City and Annex, January to December, 1892; Proceedings Board of Commissioners, 1859 to 1873, 1873 to 1878, 1878 to 1883, 1884, 1885 to 1888; Cash Books, 1880 to 1884, 1885 to 1888; Warrant Books, 1882 to 1884, 1883 to 1884, 1884 to 1886, 1886 to 1888, 1888–9, 1888 to 1890; Fire Records, 1881 to 1886; Order Books, 1881 to 1886; Secretary's Letter Books, 1883–5, 1885–7, 1887–9; Chiefs' Letter Books, 1884–5, 1886–8, 1888–9, 1889–90; Suspension Letter Books, 1884–5, 1885–7, 1887–9, and Annual Report, 1893 (2 copies).

City Solicitor—Ordinances and Resolutions for 1885–6, 1886–7, 1887–8, 1888–9, 1890–91.

City Collector—Annual Reports, 1893 (4 copies).

Public Schools—Report Committee on Accounts, 1893 (3 copies); Annual Reports, 1893 (2 copies).

Harbor Board—Laws relating to same, 1891 (2 copies); Annual Report, 1893 (2 copies); Laws relating to the Baltimore Harbor, 1894 (2 copies).

City Commissioner—Reports, 1893 (2 copies).

Trustees of the Poor—Reports, 1893 (2 copies).

Street Paving Commission—Report to Mayor and City Council, May 21, 1894 (4 copies).

City Council Papers—Received from the Clerks of the First and Second Branches City Council the following papers, viz: For 1890, 1489; 1891, 1564; 1892, 1243; 1893, 1494, and for 1894, 1583. These papers have all been endorsed, indexed and filed, and can only be removed from the office by a resolution of the Council.

Street Cleaning Department—Annual Report, 1893 (2 copies).

Police Department—Reports, 1892–93 (2 copies).

Health Department—Reports, 1893 (2 copies).

Baltimore City Jail—Reports, 1893 (2 copies).

City Comptroller—Annual Report, 1893; Check Stubs Building Committee, City Hall, 1873 to 1875, and also sixty-one pamphlets of the various departments and institutions of the city.

Superintendent City Hall—His vouchers for the years 1890, 1891 and 1892.

Court House Commission—Their instructions and plan for architects for new court house.

Appeal Tax Court—Transfer Books, 1876, 1878, 1880, 1881, 1882, 1883, 1884, 1885, 1886, 1887, 1888, also 31 Field, Memoranda and Index Books of Assessors for 1876.

MISCELLANEOUS.

From Mr. Henry C. Blum, East Canterbury, N. H.: The Manifesto.

From William B. Clark, Boston, Mass.: Problem of Man's Flight, by James Means.

From Abbott Kinney, New York: Copy of the Conquest of Death.

From Tyson Jacobs, New York: Catalogue of Vault Lights.

From George W. Childs, Philadelphia, Pa.: Copy of Public Ledger Almanac, 1894.

From Edwin P. Seaver, Mass.: A Conference on Manual Training.

From W. S. Taylor, Baltimore: Photograph of his Sketch of Federal Hill in 1852 from Light Street Wharf.

From Hon. Carl Schurz: His Speech on Civil Service Reform and Democracy, 1893.

From Joseph H. Smith, Councilman Fifteenth Ward: Cyclopædia of Useful Knowledge, 1860.

From H. C. Soudier, Paris, France: His Revue Des Livres et Du Theatre.

From Dr. Chas. W. Chancellor, United States Consul at Havre, France: Ten volumes Reports of the Paris Exposition of 1889.

From Johns Hopkins University: Circulars and Register, 1893 and 1894.

From the Pratt Library: Finding List, 1894, and Annual Report, 1893.

From the President of the Corn and Flour Exchange: Two copies of its Annual Report, 1893.

From Miss M. E. Richmond, Secretary, Annual Reports, 3, 4, 6, 8, 9, 10, 11 and 12, of the Baltimore Charity Organization Society.

From the Morning Herald: Copy of Illustrated Guide to the World's Fair, 1893, and Rand, McNally & Co.'s Library Atlas.

From the Society for the Suppression of Vice: Their Annual Report for 1893.

From the A. S. Abell Company: The Sun Almanac, 1894.

From the Baltimore and Ohio Railroad Company: Fifth Annual Report of the Relief Department, 1893.

From the Publishers, Washington, D. C.: The Weekly National Building Register, of that city.

From Wm. J. C. Dulany, City Printer: One hundred and forty copies Mayor's Message and Reports, bound

in sheep, and 60 copies in morocco, year 1893, for our exchanges; 149 Journals of the First and Second Branch, each, of the City Council, 1893-94, and 200 copies of Ordinances and Resolutions, 1893-94.

From Edwin L. Godkin, New York, Memorial of Henry G. Pearson.

From Brother Dominic, Superintendent St. Mary's Industrial School: Twenty-five Annual Reports of that Institution, 1868 to 1893, inclusive, bound in one volume.

From Messrs. Charles A. Masapust and V. J. Shimek, on behalf of the United Bohemian Society of Baltimore, a copy of the "History of Bohemia."

From Eldridge Packham, Jr.: Eight Resolutions, 3 Petitions and sundry Tax Bills left in his possession at the adjournment of the last Council.

From the University of Chicago: Their Register, 1893-94.

BOOKS PURCHASED.

City Directory, 1894; Daily Record, vol. 12; Rand, McNally & Co., Atlas of the World, 2 vols; Laws of Maryland, 1823 and 1824; Southern Boundary of Maryland; Acts of Maryland, Virginia, Pennsylvania and Congress in Relation to the Chesapeake and Ohio Canal, 1828; Boundary Lines of the States of Maryland, Pennsylvania and Delaware, 1850; Hand List of Law Journals and Documents of Maryland, 1692 to 1800.

I have purchased at the sale of the late Hon. S. Teakle Wallis, in October, the following books, documents, etc.: City Directories for the following years, so badly needed towards completing perfect file of the same, viz., 1802, 1814–15, 1822 and 1831–2, and the Baltimore Address Directory, with vocation and names of many of the most prominent persons, manufacturers and other business men of the city, to which is prefixed a statistical article developing some of the resources of Baltimore, by W. G. Lyford, October, 1836; Martinet's Map of Maryland; Presbyterians of Baltimore, their churches and historic graveyards; the trial of Frederick Calvert, Esq., Baron of Baltimore, in the Kingdom of Ireland, published in London; John Leeds Bozman's Sketch of the History of Maryland "During the Three First Years After Its Settlement," with engraved picture of George Calvert, the first Lord Baltimore; Old Churches and Families of Virginia, by Bishop Meade (2 vols.); Memoirs of Benjamin Bannaker, Colored Astronomer, by the late Hon. John H. B. Latrobe.

Almanacs: The Baltimore Almanac or Time Piece, 1814; Craig's Business Directory and Baltimore Almanac, 1843; Baltimore Almanac and Repository of Useful Information, 1841; The National Calendar and Gentlemen's Almanac, 1829; Farmers' Almanac, 1822; The American Almanac, 1833; Ellicott's Maryland and Virginia Almanac, 1791; Bannaker's Maryland, Pennsylvania, Delaware, Virginia, Kentucky and North Carolina Almanac and Ephimeris for the Year 1796; Sun Almanacs, 1876 to 1889, inclusive (14 vols.)

Studies in the Civil, Social and Ecclesiastical History of Early Maryland, by Rev. Theodore C. Gambrall; Dis-

cipline of the Yearly Meeting of Friends, held in Baltimore for the Western Shore of Maryland and adjacent parts of Pennsylvania and Virginia, 1821; Bricklayers' and Masons' Guide, 1809; Catalogus Provinciæ Marylandiæ Societatis Jesu, 1842; Strangers' Guide to Baltimore, 1852; Discourse of the Baconian Philosophy, by Samuel Tyler, 1844; Foundation, Progress and Principles of the Washington Temperance Society of Baltimore, 1842; A Narrative of the Life of Rev. Noah Davis, a Colored Man, by himself, 1859; Some Thoughts Concerning Domestic Slavery in a Letter to ——— ———, Esq., of Baltimore, by John L. Carey, 1839; Forms of Government, containing an Abstract of the Original Charter of Maryland, the Bill of Rights and Constitution of the State, Declaration of Independence, Articles of Confederation and Constitution of the United States; Authentic Account of all the Proceedings on the Fourth of July, 1815, with Regard to Laying the Cornerstone of the Washington Monument; Official List of Cannon, etc., at Whetstone Point (Fort McHenry), taken May 14, 1776; Purchase of Whetstone Point by the United States; Correspondence Secretary of Treasury, 1794–95 (8 pieces); complete set (43 pieces) pictures of Baltimore's Public Buildings, 1832; Autographs William and Mary K. Goddard, 1781, Frederick and Jonas Green, Editors Maryland Journal and Maryland Gazette, 1792; Pictures—A Talbot type of Stuart's portrait of Washington, showing canvas, also a view of the City of Baltimore, from the "Telegraph," 1847.

In addition the following Maryland Historical Society's Publications: Journal of Charles Carroll of Carrollton in 1786 (Mayer, 1845); George Calvert

(Kennedy, 1845); Major Samuel Ringgold (Wynne, 1847); American Colonial History (Donaldson, 1849); Origin and Growth of Civil Liberty in Maryland (Brown, 1850); General Otho Holland Williams (Tiffany, 1851); Tah-gah-jute, or Logan and Cresap (Mayer, 1851); Maryland Two Hundred Years Ago (Streeter, 1852); Baltimore, or Long, Long Time Ago (Buchanan, 1853); Benjamin Banneker (Morris, 1854); Appeal for the Establishment of a Free Library, 1856; Baron DeKalb, (Smith, 1858); Early Friends (or Quakers) in Maryland (Norris 1862); Who Were the Early Settlers of Maryland? (Allen, 1865); Maryland Historical Society and Peabody Institute Trustees, 1866; Report of Committee on Organization; Letter of George Peabody; John H. Alexander, LL. D., (Pinkney, 1867); Journal of Charles Carroll of Carrollton, 1776; Centennial Memorial, illustrated, 1876; Memorial of John H. B. Latrobe, 1891; Maryland Historical Society Annual Report, 1854; Maryland Historical Society Annual Report and List of Officers, 1844-1878 and 1844-1885, and Catalogue of Manuscripts, Maps, Medals, Coins, etc., 1854 (Mayer).

Fund Publications: First Commander of Kent Island (Streeter); The Settlement of Ellicott's Mills (Tyson); Lost Chapter in the History of the Steamboat (Latrobe); The Lords Baltimore (Morris); Maryland's Influence in Founding a National Commonwealth, etc. (Adams); A Character of the Province of Maryland (Alsop, 1666); The Founding of Washington City, etc. (Spofford); The Foundation of Maryland and Origin of the Act Concerning Religion (Johnson); Captain Richard Ingle, the Maryland "Pirate and Rebel"

(Ingle); Sir George Calvert, Baron of Baltimore (Wilhelm); Maryland in Liberia (Latrobe); The Archives of Maryland, etc. (Stockbridge); Luther Martin (Goddard) and Nathaniel Ramsey (Brand); John Leeds Bozman, First Historian of Maryland (Harrison); The Calvert Papers; Maryland Independence and the Confederation (Hall); Troublous Times of April, 1861 (Harris); Maryland and North Carolina in the Campaign 1780-81 (Daves).

Miscellaneous: Margaret Brent, 1883; Sketch of the Early Missions of Maryland (Campbell, 1848); Landing of the Maryland Pilgrims (Commemoration); The Seat of Government (Varnum); Catalogue Raisonne of the Towson Collection of Coins.

BOOKS BOUND.

Sun Almanacs, 1892, 1893 and 1894; City Directory, 1893; Ordinances and Resolutions 1892; 21 Ledgers rebound for the City Collector's Office; Baltimore Sun (2 vols.) from July 1 to December 31, 1893, and January 1 to June 30, 1894; two volumes Daily American and two volumes Morning Herald same dates, and City Contract, 1894.

BOOKS CONTRIBUTED OR EXCHANGED.

Copies of the Mayor's Message and Reports for 1893 have been sent to the Mayors of the following cities: Atlanta, Ga.; Austin, Texas; Alleghany, Pa.; Boston, Mass.; Buffalo, N. Y.; Berlin, Ger.; Brooklyn, N. Y.; Concord, N. H.; Chicago, Ill.; Cincinnati, O.; Charleston, S. C.; District of Columbia (Commissioners); Dublin,

Ireland; Gloucester, Mass.; Hartford, Conn.; Halifax, N. S.; Lynn, Mass.; Milwaukee, Wis.; Montreal, Can.; Mobile, Ala.; Newark, N. J.; Newport, R. I.; New York City; New Bedford, Mass.; New Haven, Conn.; New Orleans, La.; Omaha, Neb.; Philadelphia, Pa.; Providence, R. I.; Paris, France; Richmond, Va.; San Francisco; Cal.; St. Louis, Mo.; Salem, Mass.; St. Petersburg, Russia; Savannah, Ga.; Toronto, Can.; Vienna, Austria; Wilmington, Del.; Wilmington, N. C.; London, England; Louisville, Ky.; and the Johns Hopkins University, Peabody Institute; State Librarian, Annapolis; Smithsonian Institute and Librarian of Congress, Washington, D. C.

The following books have been given out upon the order of His Honor the Mayor, viz.: Mayor's Messages and Reports 1869, 2 copies; 1870, 2 copies; 1871, 2 copies; 1872, 2 copies; 1873, 2 copies; 1874, 2 copies; 1875, 2 copies; 1876, 2 copies; 1887, 3 copies; 1888, 3 copies; 1889, 4 copies; 1890, 5 copies; 1891, 5 copies; 1892, 6 copies; 1893, 6 copies.

Baltimore City Code—1879, 1 copy; Supplement, 1885, 1 copy; and Code of 1893, 10 copies.

Ordinances and Resolutions—1883, 1 copy; 1884, 1 copy; 1886–7, 1 copy; 1887–8, 2 copies; 1888–9, 2 copies; 1889–90, 3 copies; 1890–91, 4 copies; 1891–92, 4 copies; 1892–93, 13 copies; 1893–94, 11 copies.

Public Local Laws—9 copies.

Journals—First and Second Branches, 1892, 1 copy each. I have distributed the following books as

authorized by law: 13 City Codes of 1893, corrected, exchanged for ones of 1892. Mayor's Message and Reports: 1891, 1 copy; 1893, 54 copies. Ordinances and Resolutions: 1883–4, 2 copies; 1886–7, 1 copy; 1889–90, 1 copy; 1891–2, 1 copy; 1892–3, 43 copies.

Journals—First and Second Branches: 1874, 1 copy; 1879, 1 copy; 1881, 1 copy; 1890–91, 1 copy; 1892–3, 6 copies, and 1893–4, 49 copies.

Public Local Laws—1890, 3 copies, and Register's Report, 1889, 1 copy.

Water Department—Copies of their Reports, 1881, 1886, 1888, 1889.

City Register—His reports for 1889 and 1890.

Pratt Library—Copies of Ordinances and Resolutions, 1892–93.

To the Council and heads of departments, 59 copies of Ordinances and Resolutions for 1893–94; to the same, 56 copies Mayor's Message and Reports, 1893; also 40 copies Journals to the First and Second Branch Council.

CITY CODES.

Have exchanged corrected copies of Codes 1893 for copies of 1892, as follows: City Comptroller, 1; Assistant Clerk, First Branch Council, 2; General Superintendent of Lamps, 1; Harbor Board, 1; Baltimore and Ohio Railway Company, 1; City Commissioner, 1;

Chief Clerk, Second Branch Council, 1; Inspector of Buildings, 1; Mayor's Office, 1; State's Attorney, 1; Criminal Court, 1; City Council, 1.

Total Codes exchanged	13
Issued upon orders of the Mayor	10
Copies sold	26
Balance on hand	660
Total	709

STATEMENTS.

The following Warrants have been drawn during the year 1894, *against the Appropriation for the City Library.*

Date.	Warrants.	To Whom Paid.	Amounts.	Remarks.
1894.				
Jan. 17	1191	Postage Stamps	$ 5 00	
" 29	1192	Wm. J. C. Dulany Co	36 80	Annual Report.
" 31	1193	E. B. Towson	60 00	Salary.
Feb. 1	1194	Daily Record Co	3 00	11th Volume.
" 1	1195	Wm. J. C. Dulany Co	558 35	Contractors.
" 10	1196	U. S. Express Co	25	Package to Annapolis.
" 19	1197	Wm. T. Biedler & Co	3 00	1 doz. Towels.
" 21	1198	Wm. A. Flamm & Co	5 00	Map of Baltimore.
" 23	1199	Clayton R. Myers	1 60	Comb and Brushes.
" 28	1200	E. B. Towson	60 00	Salary.
Mar. 1	1201	Wm. J. C. Dulany Co	716 09	Contractors.
" 22	1202	R. C. McLanahan	2 75	Binding.
" 31	1203	E. B. Towson	60 00	Salary.
" 31	1204	Mrs. T. Walsh	4 50	Washing Towels.
" 31	1205	Daily American	1 62	
" 31	1206	Morning Herald	79	
Apl. 2	1207	Wm. J. C. Dulany Co	598 46	Contractors.

Apl. 6	1208	R. L. Polk & Co	6 00	Directory, 1894.
" 26	1209	Chesapeake and Potomac Tel. Co	33 05	To September 30, 1894.
" 30	1210	Wm. J. C. Dulany Co	259 01	Contractors.
" 30	1211	E. B. Towson	120 00	Salary.
May 31	1212	E. B. Towson	75 00	Salary.
June 6	1213	Wm. J. C. Dulany & Co	413 08	Contractors.
" 7	1214	Meals during Council	25 00	
" 30	1215	E. B. Towson	75 00	Salary.
" 30	1216	Mrs. T. Walsh	4 50	Washing Towels.
" 30	1217	Daily American	1 62	
" 30	1218	Morning Herald	79	
July 2	1219	Wm. J. C. Dulany Co.	318 46	Contractors.
" 21	1220	Rand, McNally & Co.	30 00	2 vols. Atlas of World.
" 26	1221	Phila., W. and Balto. R. R. Co	9 60	Books from Havre, France.
" 30	1222	E. B. Towson	75 00	Salary.
" 30	1223	Wm. J. C. Dulany Co	206 85	Contractors.
Aug. 16	1224	Daily Record Co.	3 00	12th vol. Record.
" 31	1225	E. B. Towson	75 00	Salary.
" 31	1226	Wm. J. C. Dulany Co.	968 42	Contractors.
Sept. 14	1227	U. S. Express Co.	16 50	46 Exchanges.
Oct. 1	1228	E. B. Towson	75 00	Salary.
" 3	1229	Adams Express Co.	35	Book from Providence, R.I.
" 3	1230	Mrs. T. Walsh.	4 50	Washing Towels.
		Amount carried forward	$4,912 94	

Warrants Drawn during the year 1894—*Continued.*

Date.	Warrants.	To Whom Paid.	Amounts.	Remarks.
1894.		Amount brought forward.....	$4,912 94	
Oct. 3	1231	Daily American.....	1 62	
" 3	1232	Morning Herald.....	79	
" 3	1233	Wm. J. C. Dulany Co.....	313 05	Contractors.
" 9	1234	Chesapeake and Potomac Tel Co...	35 35	To April 12, 1895.
" 9	1235	Meals During Council.....	5 00	
" 22	1236	Matthews & Kirkland.....	57 90	32 Books—S.T.Wallis' Sale.
" 29	1237	Postage Stamps.....	5 00	
" 31	1238	E. B. Towson.....	75 00	Salary.
" 31	1239	Wm. J. C. Dulany Co.....	176 56	Contractors.
Nov. 7	1240	Charles C. Saffell.....	5 75	6 Books.
" 20	1241	Lennox Birckhead.....	17 50	49 Pamphlets—M. H. S.
" 30	1242	E. B. Towson.....	75 00	Salary.
Dec. 6	1243	Wm. J. C. Dulany Co.....	549 15	Contractors.
" 7	1244	Daily Record Co.....	4 00	Advertising Proposals.
" 7	1245	Herald Publishing Co.....	14 55	" "
" 17	1246	A. S. Abell Co.....	12 95	" "
" 17	1247	The World.....	6 00	" "

Dec. 17	1248	German Correspondent	13 00	Advertising Proposals.
" 27	1249	Daily American	1 62	
" 27	1250	Morning Herald	79	
" 27	1251	Mrs. T. Walsh	4 50	Washing Towels.
" 27	1252	Typewriting Report	5 00	
" 27	1253	E. B. Towson	75 00	Salary.
" 31	1254	Wm. J. C. Dulany Co	586 26	Contractors
		Total	$6,954 28	

COST OF STATIONERY, PRINTING, ETC., 1894.

In compliance with the 33d Section of Article 1 of the City Code, I beg to report that the stationery, printing, etc., for the several Departments of the City Government during the year 1894, have cost:

	1893.	1894.
Appeal Tax Court	$ 79 85	$ 145 33
Baltimore City Jail	228 28	148 42
Bay View Asylum	304 49	181 46
Board of Assessors	103 95	80 24
City Collector	3,287 47	2,105 01
" Comptroller	435 00	316 75
" Commissioner	528 63	546 77
" Register	350 79	317 03
Commissioners for Opening Streets	55 30	38 63
Commissioner of Street Cleaning	61 68	72 66
Clerk Centre Market	2 96	1 50
" Canton Market	53	
" Belair Market		44
" Fell's Point Market	1 34	
" Hanover Market		1 20
" Hollins Market	1 22	1 62
" Lexington Market	3 00	3 00
" Richmond Market	2 28	99
Dog Pound		47
Examiner of Titles	16 16	19 99
Fire Department	1,027 15	379 87
General Superintendent of Lamps	109 53	70 37
Health Department	1,573 76	756 62
Harbor Board	71 17	61 23
Amonnts carried forward	$8,244 54	$5,249 60

Amounts brought forward.....			$8,244 54	$5,249 60
Harbor Master No. 1.....			3 43	11 94
" " No. 2.....			5 19	11 25
" " No. 3.....			4 25	11 65
" " No. 4.....			7 17	13 41
" " No. 5.....			8 35	5 32
Inspector of Buildings.....			77 49	100 59
Inspector of Gas and Oils.....			20 37	8 47
Law Department.....			79 80	25 49
Library.....			1,270 97	
" Clerk.....	$900 00			
" Rand & McNally's Atlas.....	30 00			
" 93 Books and Pamphlets purchased	106 16			
" 4 Books bound....	3 35			
" Annual Reports...	41 80			
" Express charges...	26 70			
" Postage.....	10 00			
" Towels, washing..	21 00			
" Newspapers.....	9 64			
" Advertising.....	50 50			
" Specifications.....	25 20			
" 60 Meals during Council.....	30 00			
" 2005 Memorandum Pads.....	30 08			
" Stationery.....	28 73			
" 1 Book Council papers.....	2 85			
" Brushes, Comb and Matches.....	1 80			
Amts. carried forward.	$1,317 81		$9,721 56	$5,437 72

Amts. brought forward.	$1,317 81	$9,721 56	$5,437 72
Library, Telephone	68 40		
" Map of Baltimore.	5 00		1,391 21
Mayor's Office		147 41	202 97
Superintendent of City Hall		10 20	8 67
Total expenditures		$9,879 17	$7,040 57
Out of Stock		80 77	86 29
Cash per warrants		$9,798 40	$6,954 28
Covered back in Treasury		1 60	366 72
Appropriations		$9,800 00	$7,321 00

The following departments, while ordering their stationery and printing through the Librarian, settle for it by their respective warrants upon the Comptroller, viz.:

Chief Engineer Water Department.	$ 351 66	$ 671 69
Park Commission	34 35	101 78
Water Department	1,455 85	1,169 37
Total	$1,841 86	$1,942 84

RECEIPTS FOR THE YEAR.

7 Ordinances and Resolutions sold	$ 10 50
26 City Codes, 1893, sold	104 00
1 Public Laws sold	35
Total	$114 85

Respectfully submitted,

GEORGE C. WEDDERBURN,

City Librarian.

ANNUAL REPORT

— OF THE —

GENERAL SUPERINTENDENT OF LAMPS

— AND —

Inspector and Sealer of Gas Meters

— TO THE —

Mayor and City Council of Baltimore,

— FOR THE —

FISCAL YEAR ENDING DECEMBER 31, 1894.

REPORT.

OFFICE OF GENERAL SUPERINTENDENT OF LAMPS AND INSPECTOR AND SEALER OF GAS METERS,

CITY HALL,

BALTIMORE, December 31, 1894.

To the Honorable the Mayor
and City Council of Baltimore:

GENTLEMEN:

I have the honor of presenting the fifteenth annual report of this department, showing receipts, disbursements and the general affairs relating to the lighting of the city of Baltimore for the year ending December 31, 1894.

There are now in use in the city proper 5,118 gas lamps, placed generally three to a square, one at each corner and one in the centre of the block or square; but the city is *not* well lighted, and many more lamps would be required if it was determined to properly light it.

At present each lamp burns about five cubic feet per hour. If the Council would authorize and direct lamps to be erected in each block about seventy-five feet apart all the lamps in the city could be cut down from five to three feet an hour. If this should be done I am sure that the streets would be much more satisfactorily lighted than they are now. Of course this change would cost something, for the iron lamp-posts and lanterns would have to be provided, and then an extra force of lamplighters would have to be paid, but there would not be a very large increase in the consumption of gas, even if the number of lamps were doubled, owing to the proposed change from five feet to three feet an hour for every lamp.

As the city is such a large consumer, it would appear that if a contract was made a price might be arranged by which the city could get its gas supply at less figures than it is now paying, for it has no contract now, and pays exactly the same rate as any other consumer, viz., $1.25 per 1,000 cubic feet, and this department has no authority to say when or where gas mains are to be laid; the gas company having refused to lay them at points where gas lamps were needed and asked for by this department.

If such a contract should be made, the effort to get the city well and properly lighted ought not to cost a very large sum, and even if the first cost of so many

new lamps should seem large, the investment would be a good one, for with gas lamps from 50 to 75 feet apart the city would be lighted better and much more satisfactorily than would be possible by electricity, unless some new lamp be invented which will give a better or more reliable light than the present arc lamp does.

The number of gasoline lamps in the city proper is 484. These lamps are erected in sections of the city not supplied with gas mains. They are filled and kept supplied with fluid by contract with Mr. Charles D. Nicolai at a cost to the city of $10.68 per annum for each lamp. This contract will expire June 30, 1895.

In the Annex there are now in use 676 gas, 563 gasoline and 3 electric lamps, though six more electric arc lamps have been ordered in position, as per resolution of the Mayor and City Council, but they have not yet been erected.

The gas, gasoline and electric lamps are in service in the Annex on the same terms as those in the city proper.

The electric light service was very unsatisfactory during the first part of the year, so much so that his Honor the Mayor exercised his authority and annulled the contract. A new contract was advertised for, under Ordinance No. 99, approved May 21, 1894; but this

time a rival company to the old one came into the field, and, though the price per light in the new contracts is the same as it was under the old one, the specifications divided the city into two districts, and a contract was made with the Maryland Electric Company for the district west of Charles street, and with the Brush Electric Company for the district east of Charles street, the latter company taking all lamps on Charles street. The number now in use in the city proper is 1,036.

These contracts were awarded for five years from September 7, 1894.

Up to this time the Maryland Electric Company has been giving better service than that given by the Brush Electric Company, but the latter company promises to do better, and will doubtless before long make the necessary arrangements to give a satisfactory light to the city, their management being at present in a somewhat chaotic condition, with no resident officer with authority to compel the employees to see that the specifications of the city's contract are carried out.

In the Annex District many more lamps are needed; but during the past year only those lamps that were absolutely necessary were erected, for it takes now nearly two hours for some of the lamplighters to get over their beats, and more lights cannot be put up unless more lighters are provided.

The gas and gasoline lamps of the whole city are now in perfect condition. In the city proper all the old square lanterns used for gas lamps have been taken down and the new globe lanterns put up on all the posts. This ornamental globe lamp presents a better appearance; the repairs are not one-fourth what was required for the old square lantern; very much time is saved in lighting and extinguishing the lamps, and the lighters can keep the globes clean with half the trouble they found with the old style lanterns.

At present there are six superintendents of lamplighters for the twenty-two wards of the city—five for the city proper and one for the Annex. Their reports are herewith appended.

BALTIMORE, December 13, 1894.

Mr. W. Stuart Symington,
General Superintendent of Lamps, etc.:

DEAR SIR:

At your request I herewith make a report of the Annex District of lamplighters for the past year.

There are three (3) electric lamps in the district, two (2) are on the York road and 1 on Andrew avenue, west of York road. There are six hundred and fifty-three (653) gas lamps in use, and five hundred and sixty-five

(565) gasoline lamps. During the latter part of the year the gas and gasoline lamps have been overhauled and painted inside and outside, and the posts have been painted also; therefore you can see that the condition of the lamps at this time is first-class. Many more lamps are needed in the built-up portion of the Annex, but they could not be lighted unless there are more men assigned to the district. At present the lamplighters are trying to perform their duties properly, but I may say that the people are complaining of the lateness of lighting the lamps on the last of a man's beat. This cannot be avoided with the present number of lamplighters, and if more lamps are put up additional men will have to be assigned to the Annex to take care of them.

Respectfully yours,

E. OREM,
Acting Superintendent Lamplighters, Annex.

BALTIMORE, December 1, 1894.

W. Stuart Symington, Esq.,
General Superintendent of Lamps, etc.:

DEAR SIR:

I have the honor to present the report of the Western District of lamplighters as follows: The Western District embraces all the territory from the west side of

Fremont and Pennsylvania avenues to the old city limits, and on the south by the north side of Pratt to Parkin, and thence on the line of the B. & O. R. R. to the old city limits; on the west by the old city limits, and on the north by North avenue to the old city limits. There are 112 electric lamps in the district. They are arranged upon mast arms, brackets and posts, so as to give light to the best advantage. Some few of them have the light partly obstructed by trees and awnings, and if removed would produce better results.

On the 1st of January there were 1,048 gas lamps in use, since which time 29 new ones have been erected, 1 relit and 3 discontinued, making the present number 1,075.

Much improvement has been made during the past year by the changing of the old and worn-out square lanterns to ornamental globe lamps. The duties of the lamplighters have been simplified thereby; consequently they make their reports for repairs with fewer mistakes; hence the lamps can be put in proper condition on the day upon which they are reported. In the northern and western sections, where new streets are opened, many houses have been erected and lamps are needed, these places now being in darkness.

There were 77 gasoline lamps in use at the beginning of the year, 2 new ones erected and 7 discontinued,

making 72 now in use. Since the new contract for supplying fluid to the gasoline lamp requires them to be filled every other day, I have had very few reports of lamps being out for want of oil. At times on windy nights they are blown out, but I know of no way to prevent this trouble.

There are twenty-one lamplighters, and their beats have been so arranged as to divide the work equally between them. It requires more than an hour to light and extinguish the lamps on any one beat. The men are endeavoring to perform the duties assigned them and have given less cause for complaint than heretofore.

Respectfully submitted,

JOHN WARD,
Superintendent Lamplighters, Western District.

BALTIMORE, December 31, 1894.

W. Stuart Symington, Esq.,
General Superintendent of Lamps, etc.:

DEAR SIR:

I have the pleasure of presenting to you the report of the Northeastern District of lamplighters from January 1 to date.

The district includes all of the territory from North avenue to the water front and from the west side Caroline street to the east side of Charles street.

There are three hundred and seventy (370) electric lamps, no new ones having been erected in the district this year. Nearly all of the business streets have been lighted by them, as well as some of the resident portion. They are placed on mast arms, brackets and posts.

There are nine hundred and seventy-one (971) gas lamps in use, twenty (20) new ones were erected and three (3) were relit and two (2) discontinued. There remains but few of the old square lanterns and these are upon brackets placed on the walls of houses. Those that were upon posts have been superseded by the globe lamps. There has been a decided improvement in the light upon the streets by the adoption of the globe lamps and the changing of the tips, so as to produce the round flame. I may also state the duties of the lamplighters are more easily performed since the globe lamp has come into service—they are more readily cleaned and require fewer repairs. All the discontinued gas lamp posts have been straightened, as well as those in daily use, which has greatly improved their appearance.

On the 1st of January there were ninety-two (92) gasoline lamps, and during the year three (3) additional lamps were erected and fifteen (15) discontinued, leaving

eighty (80) now in service. I would suggest if the globe lamp can be arranged for the use of the gasoline burners that they be substituted for the old style square lanterns, believing the advantage would more than compensate for the additional cost in making the change.

There are twenty-two (22) lamplighters, and their beats are arranged so as to divide the work as equal as possible. While some of them have less lamps others have more territory, and this is brought about by the men having to move in and out through the electric light portions to get at the lamps in the lanes and alleys.

The district now is in a first-class condition, and the lamplighters are rendering satisfactory service. There has only been one suspension during the year, and the discipline maintained by the men has been the means of bringing their work to show such satisfactory results.

Respectfully submitted,

CHARLES J. DOUGHERTY,

Superintendent, Northeastern District.

BALTIMORE, December 18, 1894.

W. Stuart Symington, Esq.:

DEAR SIR:

I have the honor of presenting to you the report of the Northwestern District of lamplighters up to December 1, 1894.

I find in the district two hundred and three (203) electric lights, four of these having been erected in Lexington Market within the past year. They are placed upon arms, brackets and poles.

On the streets and in the alleys are found twelve hundred and ninety-two (1,292) gas lamps. There are thirty-nine (39) burners in the three markets, viz.:

Lexington Market	4
Lafayette Market	8
Richmond Market	27

All the gas lamps, with one exception, are supplied with Minor globes. (The above one being located on Morris street, north from Lanvale street). They give better light and are more easily kept clean by the lighter.

There are fifty (50) gasoline lamps in the district, all of which are doing as well as may be expected. During the past year the use of several gasoline lamps has been discontinued, having been replaced by gas lamps.

There are twenty-two (22) lamplighters in the district, whose beats are equally divided. It requires on an average one hour and ten minutes to light the number allotted each man. If possible, two additional lighters should be assigned to the district.

I must say that, with a few exceptions, the lighters endeavor to light and extinguish their lamps, as well as to report them for repairs, to the best of their ability.

I should recommend that the gasoline lamps be replaced by gas lamps in the following localities:

Morris street, north from Preston street to Lanvale. Number of lamps 3
Jordan street, north from Hoffman street to Lafayette avenue. Number of lamps 3
Jenkins alley, north from Preston street to Hoffman street. Number of lamps 1
Jenkins alley, north from Dolphin street to Lanvale street. Number of Lamps 1
Foster street, north from Dolphin street to Wilson street. Number of lamps 4
Bradley street, east from Fremont avenue, and Bradley street, west from Pine street. Number of lamps 2
Jasper street, north from New street. Number of Lamps 1

Total number of lamps 15

The territory covered by my district is as follows:

Beginning at the northwest corner of Pratt and Charles street and running north on the west side of Charles street to the northwest corner of Charles street and North avenue, west on the north side of North avenue to Pennsylvania avenue, south on east side of Pennsylvania avenue to Fremont avenue, and south on the east side of Fremont avenue to Pratt street, and east on the north side of Pratt street to Charles street.

CLASSIFICATION OF LAMPS.

Globe lamps	1,292
Gasoline lamps	50
Market lamps	39
Square lamps	1
Sum total	1,382

Hoping the above will meet your hearty approval,

I remain, very respectfully,

R. E. HARDEN,

Supt. of Lamplighters in Northwestern District.

Annual Report of the Acting Superintendent of the Southern District,

Baltimore, December 6, 1894.

To the General Superintendent of Lamps,
Major W. Stuart Symington:

Sir:

I respectfully submit the following report, commencing January 1, 1894, and ending December 1, 1894:

The condition of lamps at the beginning of the year and the globing of the same giving great satisfaction to the lighters, Superintendent and the public in general, and last but not least, conferring a great credit upon the General Superintendent of the department.

The condition of the district at present is elegant. There are at present twenty-two lighters, all of which are doing well—prompt in lighting and extinguishing as well as in reporting. Lamps are kept as clean as possible.

Another part of the work worthy of note—the globing of the bracket lamps and the promptness of the work done after the reporting of the same by the Superintendent of the district through the office.

There are at present 185 electric lights in the Southern District, supplied by two (2) different companies, as fol-

lows: East from Hanover street by the Brush Company, and west by the Maryland Company, giving entire satisfaction.

Amount of gas lamps in the district at present.... 771
Oil lamps. 139

Respectfully yours,

GEORGE H. SMITH,

Acting Superintendent.

BALTIMORE, December 1, 1894.

W. Stuart Symington, Esq.,
General Superintendent of Lamps:

DEAR SIR:

I have the honor of submitting the annual report of the Eastern District of lamplighters for the past year, etc. The district comprises all the territory from the east side of Caroline street to the eastern city limits, and from the water front to North avenue.

There are one hundred and fifty-eight (158) electric lamps on the streets and seven (7) in the Broadway markets. The water front is entirely lighted by electric arc lamps, the remainder of them being on some of the most prominent streets.

There are eleven hundred and twenty-nine (1,129) gas lamps, fifty (50) new ones having been erected, six (6) relit and two (2) discontinued.

There are also seven (7) jets in the Canton Market and thirteen (13) in the Northeastern Market.

During the past year the district has been very much improved by substituting the globe lamps instead of the dilapidated and worn-out square lanterns; the globe lamps give much satisfaction and the light is more distributed. Recently there has been at times trouble (presumably caused by the gas) with the burners smoking and giving a dull and unsteady light. Many more lamps are now needed in the outlying portions of the district where houses have been erected and occupied, consequently the residents are compelled to grope about in darkness. I can safely say that forty (40) lamps are now needed, and if building operations continue and new streets are opened, in the next year provision will have to be made for at least seventy-five (75) additional lamps.

All the lamps on corners of intersecting streets have been supplied with street signs. There are now in operation one hundred and forty-three (143) gasoline lamps, eleven (11) new ones erected and eighteen (18) discontinued; they are only upon streets and alleys where there are no gas mains. They are giving general

satisfaction, but I would recommend the substituting of gas lamps for them as soon as gas mains are laid. The gas and gasoline lamps are lighted, extinguished and kept clean by twenty-five (25) lamplighters. The average time of lighting a man's beat is one hour and ten minutes, and you can readily see if the lamps are put into position upon the new streets as heretofore mentioned it will require at least two (2) more lamplighters or otherwise the last of a man's beat will not be lit until long after dark.

During the year two (2) men have been dismissed and three (3) suspended, which has had the effect of bringing the other men to see that the duties of their positions have got to be properly performed, and I must say that they are now striving to do well.

I am, yours respectfully,

EDWARD HAMMER,
Superintendent Lamplighters, Eastern District.

These superintendents are supposed o keep a general supervision of the actions of the lamplighters, and to see that the lamps in their several districts are lighted and extinguished at the proper hours, and kept in proper condition and repair; but owing to the extended territory over which they one and all have to move, they cannot give proper attention to the whole of their

districts in any one night and, as a natural result, many sections of the city are not properly supervised, and many derelictions of the lamplighters never get to the knowledge of the General Superintendent.

The present force, both of superintendents and of lamplighters, is working well, and one and all seem desirous of doing their duty to the best of their several abilities, but it is too small a force and is inadequate to the work necessarily required. The duty of properly lighting a great city like Baltimore is one that requires constant and careful attention, and one can clearly see that a force capable of doing well the comparatively light work of some years ago, when the city was much smaller, is absolutely unable to cope with the necessary duties required of it when the territory has been doubled.

The General Superintendent should be better informed of what is going on and what is being neglected; but with an inadequate force under him, and so much clerical office work to do, it is impossible for him to see that the rules of the department are carried out, and to exercise the general supervision so much needed for the proper working of a department charged with the important duty of properly lighting the streets of the city of Baltimore.

The work of this department is hampered by the inspection and sealing of gas meters—a duty, which it

seems to me, more properly belongs to the Department of Inspector of Oils and Gas. Every gas meter used in the city (both public and private) has to pass through this office to be inspected and sealed. It will readily be seen that this is a most important work, and it can also be as easily seen that the addition of the Twenty-first and Twenty-second Wards to the city has added a great deal of work to that heretofore done as Inspector and Sealer of Meters, and this work is constantly growing as the annex gets built up and the number of gas consumers increases. The fees for this work amount to over $2,000 a year, and would more than pay the salary of some one who would give his whole attention to it, for it now requires the constant attention of either the General Superintendent of Lamps, or his one clerk, from 9 A.M. until 3 P.M., and many other duties are necessarily neglected or hurriedly performed.

If it were not for the very efficient manner in which the services of my one clerk are performed, I am sure that this department could not do the work at present required of it, and I earnestly request that you appoint a committee to inquire into its matters and affairs, feeling sure that on receipt of their report some relief will be given and more satisfactory work secured.

I am, sirs, very respectfully yours,

W. STUART SYMINGTON,

General Superintendent of Lamps, etc.

TABLES.

TABLE A.

Exhibits the number and sizes of Meters inspected, also those rejected as incorrect.

	Size and Number of Meters Inspected and Sealed.										
Size of Meters	2	3	5	10	20	30	45	60	100	150	200
Number of Meters	16	78	8,510	279	107	42	30	20	20	1	1

	Size and Number of Meters Rejected as Incorrect.					
Size of Meters	2	3	5	20	60	100
Number of Meters	1	1	67	1	1	1

In addition to the above there were 12 lamp, market and engine house meters taken out and inspected, 7 of which were incorrect.

TABLE B.

Shows the amount received by the Department and paid to the Register on warrants from the Comptroller.

Inspecting gas meters	$2,472 75
Recovered damages to lamps	460 00
	$2,932 75

TABLE C.

Exhibits the amount of appropriation and amount expended, with balance unexpended, for the electric light account.

Appropriation for electric lights	$132,000 00
Amount expended	126,298 49
Balance	$ 5,701 51

TABLE D.

Exhibits of amount of appropriation and amount expended, with balance unexpended, for the gas account.

Appropriation for gas	$142,886 94
Amount expended	141,878 27
Balance	$1,008 67

TABLE E.

Exhibits the amount of appropriation and amount expended, with balance unexpended, for the gasoline account.

Appropriation for gasoline	$6,580 00
Amount expended	6,539 01
Balance	$40 99

TABLE F.

ANNEX.

Exhibits the amount of appropriation and amount expended, with balance unexpended, for the electric light account.

Appropriation for electric lights	$1,277 50
Amount expended	484 75
Balance	$792 75

TABLE G.

ANNEX.

Exhibits the amount of appropriation and amount expended, with balance unexpended, for the gas account.

Appropriation for gas	$18,000 00
Amount expended	16,640 74
Balance	$1,359 26

TABLE H.

ANNEX.

Exhibits the amount of appropriation and amount expended, with balance unexpended, for the gasoline account.

Appropriation for gasoline	$6,870 00
Amount expended	6,367 91
Balance	$ 502 09

TABLE I.

CITY PROPER.

Shows the amounts required for the year ending December 31, 1895.

The appropriation for electric lights will cover the cost of the electric lamps on streets, in squares, markets, bridges, in clock at No. 6 Engine House, and inspection of the lamps, as well as for apparatus and repairs to the apparatus for making the inspections	$141,528	50
The appropriation for gas will cover the cost of gas for street lamps, squares, markets, bridges, Washington Monument, erecting and removal of lamps, straightening posts, renewal of services, new globes, lanterns, lamp posts, street signs, burners, stops and all necessary repairs for keeping the lamps in good condition, and for additions and alterations to gas pipes or fixtures in public buildings	$148,085	00
The appropriation for gasoline will cover the cost of gasoline for the gasoline lamps, new posts, lanterns, burners, valves, lamp wick, glass and all necessary repairs for keeping the lamps in good condition	$ 6,749	00

TABLE J.

ANNEX.

Shows the amount required for the year ending December 31, 1895.

The appropriation for electric lights will cover the cost of the electric lamps on the streets and highways.....	$ 1,277	50
The appropriation for gas will cover the cost of gas for street lamps, erecting and removal of lamps, renewal of services, straightening posts, new lanterns, globes, burners, lamp-posts, stop-cocks, street signs, and all needed repairs to keep the lamps in proper condition....	$19,435	00
The appropriation for gasoline will cover the cost of gasoline for the gasoline lamps, new posts, lanterns, burners, valves, lamp-wick, glass and all needed repairs to the fluid-burning lamps.....	$ 7,368	00

ANNUAL REPORT

OF THE

INSPECTOR OF BUILDINGS,

TO THE

Mayor and City Council of Baltimore,

FOR THE

FISCAL YEAR ENDING DECEMBER 31, 1894.

REPORT.

OFFICE OF INSPECTOR OF BUILDINGS—CITY HALL,

BALTIMORE, December 31, 1894.

To the Honorable the Mayor
and City Council of Baltimore:

GENTLEMEN:

I have the honor to submit the following report of the transactions of this office during the past year, showing the progress of the various works under its control, and their present condition.

NEW SCHOOL HOUSES.

Since my last annul report No. 15 Annex School, Walbrook, which was commenced last year, has been completed and accepted. It is a substantially built and conveniently arranged house. Ordinance No. 36 appropriated $25,000 for the erection of this building. The Smead Warming, Ventilating and Closet System was adopted as directed, the cost of which was $2,934.

WESTERN HIGH SCHOOL,

McCulloh Street and Lafayette Avenue.

The plans adopted for this building were described in my last report. Proposals were advertised for, and the contracts awarded to the lowest bidders. The building contract to Mr. Henry S. Rippel, and the steam heating and ventilating apparatus and the plumbing to Messrs. Crook, Horner & Co. The lowest bids were in excess of the amount appropriated by Ordinance No. 32, and a further appropriation of $30,000 was authorized by Ordinance No. 121. Satisfactory progress is being made in the construction of this building, it being almost ready for the iron roof, and the indications are that it will be ready for occupancy by the next September term.

NO. 6 ENGLISH-GERMAN SCHOOL.

Ramsay and Smallwood Streets.

Ordinance No. 185, and Resolution No. 223, authorized the acquisition of a site and the erection of this building, and plans were prepared for a house containing twenty class-rooms. Proposals were received under advertisement, but the lowest bid was in excess of the balance of appropriation after purchase of site. The plans were changed to a sixteen-room house and re-advertised; the lowest bidder was Mr. James B. Yeatman, and his proposal was accepted.

His Honor the Mayor decided to give the Southern Warming & Ventilating Company's System a trial in this building, so that we could judge of its merits in comparison with other systems now in use.

The building is being constructed; the first floor of joists is on; when finished it will contain sixteen class-rooms, with the necessary accommodations for teachers and scholars, and ample means of egress.

No. 36 PRIMARY SCHOOL,

Hanover and Winder Streets.

Ordinance No. 33 enjoined the erection of this house, and appropriated $25,000 for the purpose. Plans have been prepared, and proposals will be advertised for in a few days. The drawings call for a twelve-room building, with the usual hat and coat rooms, and other conveniences. The Southern Warming and Ventilating Company's System has been adapted to these plans, but proposals will be invited from the representatives of other systems.

No. 10 COLORED SCHOOL,

Girard Avenue and Sherman Place.

Working drawings, etc., for this house have been prepared, as directed by Ordinance No. 73. They call for a building containing nine class-rooms, three cloak-rooms, teachers' and book-rooms, a fire-proof stairway,

and ample corridors and exits. This is as large as the limited appropriation ($20,000) would allow. The work will be advertised for proposals, and the bids opened on January 16, 1895. The Southern Warming and Ventilating Company's System, with their closet arrangements, has been embraced in these plans, but other proposals will be invited.

ADDITIONS TO No. 9 ANNEX SCHOOL.

Calverton.

The additions to this house, directed by Resolution No. 34, was commenced last year, and has been completed and the building accepted. This house now contains ten large class-rooms instead of four as formerly, and the additional cloak-rooms, stairway and entrances make it a convenient and commodious house. The appropriation was $11,000, which was further augmented by an appropriation of $2,000 for the Snead Heating, Ventilating and Closet System, which was applied to the whole building, as authorized by Resolution No. 202.

COLORED MANUAL TRAINING SCHOOL,

South Fremont Street.

A small two-story addition to this building was directed by Ordinance No. 158, and $600 was appropriated to defray the cost. The addition was for storage-rooms for tools, etc., and was completed to the satisfaction of the Board of School Commissioners.

MORE LIBERAL APPROPRIATIONS AND LARGER BUILDINGS.

The suggestion previously made in my reports I beg respectfully to recall to your attention. It refers to the necessity of granting more liberal appropriations for the erection of our school buildings, so that larger, more commodious and a better class of houses can be built. It is a fact that the records will fully sustain that a number of school houses but recently completed and occupied are already too small to afford proper accommodations and facilities for their present occupants. The smallness of the appropriations make it impossible to plan a building to provide for any future requirements, and are often too prescribed to provide for the present needs. Larger class-rooms are wanted for the single desks, which require more floor space than when double ones were used, as well as for sanitary reasons. An assembly-room in each school house ought to be provided, the best method of heating and ventilating, and the most perfect sanitary arrangements are a necessity. Economy and more beneficial results would be secured by building larger houses. Numerous additions to comparatively new schools have been made during the last few years. The cost of these is much higher proportionately than new buildings, and the arrangements cannot be as complete and satisfactory as if planned before the building was first erected.

REPAIRS, ETC., TO PUBLIC SCHOOLS.

Painting.

Primary Schools—No. 7, Mullikin street; No. 8, Caroline street; No. 10, Hollins street; No. 13, Patterson Park avenue; No. 16, Harford avenue; No. 22, Ramsay street; No. 23, Gough and Wolfe streets; No. 24, Lancaster and Patuxent streets; No. 27, Fayette and Chester streets; No. 30, Hollins street; No. 32, Guilford avenue and Lanvale street. Grammar Schools—No. 2, Broadway and Bank; No. 3, High street; No. 8, Hollins and Monroe streets; No. 10, William and Warren streets; No. 20, Eden and Federal streets; and Colored School No. 8, Bond and Chew streets, were painted inside or out, or both; one or two coats, as necessary.

Oiling and Penciling Fronts.

The fronts of the following school-houses were oiled and penciled: Primary Schools—No. 10, Hollins street; No. 16, Harford avenue; No. 22, Ramsay street; No. 23, Gough and Wolfe streets; No. 24, Lancaster and Patuxent streets; No. 27, Fayette and Chester streets, and No. 30, Hollins street. Grammar Schools—No. 2, Broadway and Bank street; No. 3, High street; No. 8, Hollins and Monroe streets; No. 11, Gilmor and Mosher streets. Colored Schools—No. 2, Jefferson street, and No. 8, Bond and Chew streets.

New Ceilings.

Grammar Schools—No. 4, Sharp street, and No. 13, Aisquith street, had new wood ceilings put up. Primary Schools—No. 16, Harford avenue; No. 20, Preston and Eden streets; No. 27, Fayette and Chester streets, and No. 32, Guilford avenue and Lanvale street, and English-German School No. 3 had new metal ones.

New Floors.

New floors were laid in Primary Schools No. 7, Mullikin street; No. 10, Hollins street; No. 15, Carrollton avenue and Saratoga street; No. 22, Ramsay street, and No. 30, Hollins street. Grammar Schools—No. 1 Male and No. 1 Female, Fayette and Greene streets; No. 13, Aisquith street, and No. 14, Linden avenue. English-German Schools—No. 3, Baltimore street, and No. 4, Chase and McDonogh streets, and the Manual Training School.

At Nos. 22 and 30 Primary Schools, it was necessary to lay new floors throughout the entire buildings.

New treads to the stairways were also laid at Nos. 15 and 30 Primary, and No. 13 Grammar School.

New fences were put up at No. 18 Primary School, Arlington; Colored Schools No. 2, Jefferson street; No. 6, Barre street; and No. 8, Bond and Chew streets, and at the Western Female High School.

No. 6 Colored School, Barre street, had two new closets built.

New partitions were erected at No. 13 Grammar School, No. 21 Primary School, and the Western Female High School.

New shutters were hung at No. 20 Grammar School and No. 22 Primary School.

At No. 4 English-German School an additional classroom was provided by the re-arrangement of the partitions.

The side alley at No. 20 Primary School was paved with granolithic cement, and a new front pavement was laid to No. 11 Grammar School.

New tin valleys were laid on the four towers of No. 3 Grammar and Primary Schools.

At No. 10 Grammar School a new window was put in to increase the light, and a drain laid from the closets to the sewer to abate a nuisance.

New storm-doors were furnished and hung to No. 17 Primary School.

The front wall of No. 2 Colored School was taken down and rebuilt on account of its unsafe condition, and a new tin roof was put on, and a new front pavement laid.

The above are, among the principal items, but all work necessary to keep the buildings in proper repair and preservation has received prompt and constant attention.

ENGINE HOUSES.

Engine House No. 17, *Fort Avenue and Haubert Street.*

Ordinance No. 44 and Resolution No. 24 authorized the erection of this house. The plans were submitted to the Board of Fire Commissioners, and their requirements and suggestions adopted.

This house has a frontage on Fort avenue of forty-two feet and a depth over all of ninety-seven feet; it has two large main entrances in front; a tower for drying hose. All the first story and sidewalks have granolithic cement paving. There are stalls for eight horses, and all the best and most approved equipments. The second story contains a large bed-room, captain's room, bath-rooms and water-closets, a linen store and hay loft. The house is well arranged and substantially built. The contractor was Mr. J. J. Hughes, and the building was completed and accepted November 5, 1894. The amount of the appropriation was $12,500.

Engine House No. 19, *North Avenue and Bond Street.*

Designs for this house were approved by the Fire Commissioners, the working drawings made and pro-

posals advertised for. Messrs. Morrow Brothers were the successful bidders. The house has a frontage of 40 feet on North avenue, and on Bond street 110 feet. There are two large arched entrances in front; the whole of first story and the sidewalks are paved with granolithic cement. There are stalls for four horses, and all the most approved appliances and facilities.

The second story has a large bed-room, a captain's room, linen-room, bath, and water-closets, and a large hay loft. The tower for drying hose is 56 feet high. Ordinance No. 6 provided $15,000 for the erection of this building, and it has been satisfactorily completed, and was accepted November 5, 1894.

Truck House No. 10, *Lafayette Avenue west of Stricker Street.*

This house has a frontage of 40 feet on Lafayette avenue, and a depth over all of 140 feet.

The whole of the first story, the sidewalk and the side alleys are paved with granolithic cement.

The front portion of the building to a depth of 64 feet is the truck house proper, the rear portion is a stable for reserve or sick horses, and is fitted with six box-stalls with room for as many more when required. Over the stable is a hay loft, and over the truck house the bed-room, captain's room, linen-room, bath and closets. A lookout tower is built off the roof.

The late Mr. Charles Ogle was the contractor, and the building is not yet finished. The amount appropriated by Ordinance No. 7 was $12,000.

Nos. 1 and 5 Engine Houses had pavements laid in the rear, and new curbing set.

No. 4 Engine House had new rear doors hung, and a new roof on stable.

No. 4 Truck House: A watch tower was erected on this house for the convenience of the firemen when the electric alarms are out of order. Comfortable quarters were also fitted up for the Chief, including a private bath-room.

No. 6 Truck House had a new pavement laid in rear, and an additional stall added.

No. 9 Engine House had a new tin roof, and cement pavement laid.

No. 10 Engine House. The stalls were rebuilt and newly concreted, and a platform and steps built on the roof.

No. 13 Engine House. About half the roof was recovered with tin and new eves gutters put around the whole; new floors laid and granolithic pavement.

All other Engine and Truck houses received attention, and the necessary repairs executed.

We are indebted to the Board of Fire Commissioners for valuable aid rendered by Chief Ledden and his staff in keeping these houses in repair.

MARKET HOUSES.

Lafayette Market House.

The sheds of this market were extended over the vacant space at the Fremont-street end of the market lot, the market-master's office removed, and a new one constructed in the roof.

This addition has improved the appearance as well as the convenience of the market, and has added considerably to the accommodations of the stall owners and buyers.

Resolution No. 116 authorized this extension, and appropriated $2,500 to defray the cost. Proposals were invited by advertisement, and Mr. J. E. Cullimore was the successful competitor.

Lexington Market,

Between Eutaw and Paca streets was repaved with granolithic cement, and the gutters to roof renewed.

Centre Market.

New eaves gutters were fitted to this market shed.

Richmond Market.

The roof was partly renewed and new eaves gutters put up.

All the market sheds have been kept in good repair, and whitewashed where necessary.

CITY HALL.

Several rooms and offices, and the lower corridors have been repainted; and all repairs received prompt attention.

COURT HOUSES.

Only the more urgently needed repairs received attention owing to the proposed early removal of these buildings.

CITY JAIL.

Owing to the fire at the City Jail, October 13, 1893, it became necessary to immediately erect a temporary covering and to restore other work damaged. In the meantime plans were prepared and proposals invited for a new fire-proof roof. The lowest bid received, that of the Campbell & Zell Co., was accepted, and the work has been satisfactorily performed. Resolution No. 12 appropriated $18,000 for the new roof and the work already executed.

Repairs were done to the Jail buildings, and materials furnished for same, as directed by Warden Daniel Constantine.

DOG POUND.

The buildings were kept in thorough repair, and all necessary whitewashing done.

CESSPOOLS.

The cesspools to all engine and school houses were kept clean during the year.

BATTLE MONUMENT.

The contract for cleaning this monument was given to Mr. George M. Zapf, who has performed the work faithfully, but owing to a previous use of acids it was found impossible to restore it to its original color.

Resolution No. 89 ordered this work to be done.

DISINFECTING HOUSE AND PLANT, QUARANTINE HOSPITAL.

Ordinance No. 122 and Resolution No. 10 directed the erection of this building, and the construction of the necessary plant for same.

The drawings were made under the direction and supervision of Health Commissioner Dr. McShane, and Dr. Heiskel.

Proposals were invited, and the bid of Mr. J. J. Hughes for the building was accepted, and that of The E. J. Codd Co. for the plant.

The house is a one-story brick building, containing a room for infected, and one for disinfected goods, each of which is 24x38 ft., and a boiler-room, 15x38 ft. Each of the rooms is separated by solid brick walls. The

whole of the floors are paved with granolithic cement. There is a furnace for burning infected goods, a disinfecting chamber or cylinder, with cars, trucks and rails, all complete; a steam boiler, vacuum pump, steam pump, piping, and all the appliances necessary for a plant in perfect working order. The contracts were completed and the building accepted November 5, 1894.

CITY PROPERTY—ANNEX.

School-houses Nos. 1, 3 and 7 were painted inside, and Nos. 2, 4 and 13 were painted outside.

New fences were erected at Nos. 1, 2 and 10 Schools, and No. 3 Colored School.

New eaves, gutters and down spouts were furnished to Nos. 2 and 7 Schools, and Nos. 1 and 3 Colored Schools.

At No. 3 School new and larger water closets were built, and at No. 2 a shed was erected over the urinal.

Water supply was put in at No. 4 School, and the yards to No. 10 were paved and graveled.

Nos. 8 and 34 had new storm doors; No. 8 also had the rear alley paved.

No. 11 had a new pavement in yard, and No. 35 had part of the cellar floor laid with cement.

At No. 1 Colored School a new coal shed was built.

Nos. 1 and 2 Chemical Engine Houses: The bell turrets were converted into watch towers for use in case of break-down of the alarm system.

No. 1 also had several rooms papered, and No. 2 a new tin roof, eaves gutters and down spouts.

No. 5 Engine House had a new tin roof and the bedroom papered.

FIRE ESCAPES, DANGEROUS WALLS, ETC.

During the year I have examined and ordered to be made secure about 222 dangerous walls, 211 chimneys, cornice, spouting, etc. I have also ordered to be erected 18 fire escapes, and have issued 243 notices to builders who were violating the building laws.

In presenting the annexed tables, it is gratifying to note that the steady increase in the revenue of this office has been maintained; this year it is larger than ever before, and an increase over last year of more than $1,500.

The tables will show:

A. The amount of appropriations and disbursements of this department during the year 1894.

B. The revenue of this office for the same period.

C. The estimate of the amounts required for this department for the year 1895.

All of which I most respectfully submit,

J. THEODORE OSTER,

Inspector of Buildings.

TABLES.

TABLE A.

Showing the amount appropriated and disbursed for the year 1894.

	Appropriated	Expended.	Balance.
Repairs of public schools	$21,500 00	$21,497 65	$ 2 35
Repairs of city property	21,000 00	18,361 75	2,638 25
Emptying cesspools	1,000 00	689 00	311 00
City property, Annex	6,000 00	5,674 93	325 07
Incidentals	100 00	100 00	
Livery	600 00	600 00	
Salaries	5,500 00	5,500 00	
Sanitary and other improvements	4,000 00	3,975 90	24 10
Extra out-door help	5,800 00	5,800 00	
Extra help, Annex	1,240 00	1,240 00	
Livery, Annex	300 00	300 00	
Smead System No. 9 Annex School	2,000 00	2,000 00	
Addition to No. 9 Annex School	2,889 34	2,889 34	
Rental of Auxiliary Fire Alarm Boxes in schools	4,300 00	4,300 00	
Winding clocks at engine houses	200 00	200 00	
Building No. 17 Engine House	12,500 00	12,500 00	
Purchase lot and building Male and Female Grammar and Primary School, Twenty-first Ward	24,392 77	23,971 99	420 78
Building Western Female High School	130,000 00	35,226 34	94,773 66
Building Disinfecting Plant at the Quarantine Hospital	13,324 35	13,008 02	316 33
New roof south wing City Jail	18,000 00	17,935 83	64 17
Building Hook and Ladder House on Lafayette avenue	12,000 00	8,764 23	3,235 77
Building No. 19 Engine House	15,000 00	13,294 87	1,705 13
Cleaning Battle Monument	500 00	435 00	65 00
Extending shed, Lafayette Market	2,500 00	2,486 35	13 65
Smead System Walbrook School	2,934 00	2,934 00	
Building Primary School in South Baltimore	25,000 00		25,000 00
Building addition to Colored Manual Training School	600 00	600 00	
Painting and repairing buildings at Quarantine Hospital	1,500 00	1,495 55	4 45
Building English-German School No. 6	30,996 00	3,541 48	27,454 52
Building Colored Primary School No. 10	20,000 00		20,000 00
Totals	$385,676 46	$209,322 23	$176.354 23

TABLE B.

Showing the Revenues of this Office for the Year 1894.

Permits issued as follows:

For bay-windows on front and side	$3,188 00	
For frame sheds and bay-windows in rear	3,263 35	
For Frame bath-rooms	1,592 00	
For vaults and areas	2,010 21	
For tapping sewers	360 00	
Amount received for old material.	128 44	
		$10,542 00
Amount received for advertising permits	$490 00	
Paid for same	355 76	
		$134 24
Net revenue		$10,676 24

KEY TO TABLE B.

Showing the Revenues of this Office for the Year 1894.

	Advertising.	Sheds.	Old Material, etc.	Bay Windows	Tapping Sewers.	Bath Rooms.	Areas.	Total.
December. .	$50 00	$166 25	..... .	$ 120 00	.....	$148 00	$ 24 98	$ 509 23
January ...	10 00	259 25	$ 2 44	.....	.....	88 00	252 84	612 53
February ..	40 00	235 25	.....	1,090 00	.....	150 00	27 30	1,542 55
March.	35 00	264 75	.... ..	250 00	$80 00	112 00	49 81	791 56
April.....	75 00	505 00	.....	416 00	..... .	112 00	67 60	1,175 60
May	65 00	297 50	5 00	278 00	80 00	152 00	78 31	955 81
June.....	20 00	192 35	.....	140 00	80 00	114 00	987 36	1,533 71
July	40 00	116 00	.....	164 00	80 00	104 00	50 15	554 15
August. ...	50 00	246 50	56 00	100 00	.....	178 00	84 83	715 33
September.	10 00	284 50	.....	30 00	.....	132 00	259 25	715 75
October. ...	45 00	328 50	60 00	270 00	40 00	228 00	62 93	1,034 43
November..	50 00	367 50	5 00	330 00	..... .	74 00	64 85	891 35
Total	$490 00	$3,263 35	$128 44	$3,188 00	$360 00	$1,592 00	$2,010 21	$11,032 00

TABLE C.

Showing the amount required for this department for the year 1895.

For repairs of city property:		
For engine houses	$16,000 00	
For City Jail	3,000 00	
For City Hall	4,000 00	
For market houses	6,000 00	
For court houses	1,000 00	
For dog pound and other property	1,000 00	
		$31,000 00
For repairs of public schools:		
For general repairs	$15,000 00	
For painting school houses	6,000 00	
For partitions and storm doors	1,000 00	
For substituting wood and iron for plastered ceilings	3,000 00	
		$25,000 00
For sanitary and other improvements		4,000 00
For emptying cesspools		1,000 00
For incidentals		200 00
Livery of two horses and repairs to wagons		600 00
For salaries		5,500 00
For extra outdoor help		6,200 00
For rental of auxiliary fire-alarm boxes		4,200 00
Amount carried forward		$77,700 00

TABLE C—Concluded.

Amount brought forward....	$77,700 00
For winding clocks at engine houses.....	200 00
For extra help, Annex.....	1,240 00
For livery and repair to wagon, Annex.....	300 00
For repairs to city property, Annex.....	8,000 00
For building Western Female High School.....	94,773 66
For building Hook and Ladder House, No. 10.....	4,940 90
For building No. 35 Primary School, South Baltimore....	25,000 00
For building English-German School No. 6.....	27,454 52
Additional appropriation, English-German School No. 6.	6,000 00
For building Colored Primary School No. 10.....	20,000 00
For fitting up and furnishing Judge Dobler's office.....	325 00
	$265,934 08

THE ELEVENTH ANNUAL REPORT

— OF THE —

Board of Fire Commissioners

— AND THE —

THIRTY-SIXTH ANNUAL REPORT

— OF THE —

FIRE DEPARTMENT

— TO THE —

Mayor and City Council of Baltimore,

— FOR THE —

FISCAL YEAR ENDING DECEMBER 31, 1894.

OFFICERS OF THE FIRE DEPARTMENT.

FIRE COMMISSIONERS:

J. ALEXANDER PRESTON, - - *President*,
FERDINAND C. LATROBE, *Ex-officio*,
JOHN F. HUNTER, GEORGE MAY.

SECRETARY AND CLERK:

DAVID H. LUCCHESI.

CHIEF ENGINEER:

JOHN J. LEDDEN.

DISTRICT ENGINEERS:

1st District, - - - GEORGE W. HORTON.
2d " - - - WILLIAM M. DUNN.
3d " - - - WILLIAM C. McAFEE.
4th " - - - FIELDING H. LUCAS.
5th " - - - FRANK K. CONWAY.
6th " - - - WILLIAM A. LARKINS.

SUPERINTENDENT OF MACHINERY:

GEORGE J. LINSENMEYER.

SUPERINTENDENT OF POLICE AND FIRE ALARM TELEGRAPH:

CHARLES J. McALEESE.

REPORT.

OFFICE OF BOARD OF FIRE COMMISSIONERS,

BALTIMORE, January 1, 1895.

To the Honorable the Mayor and
City Council of Baltimore:

GENTLEMEN:

The report of the Board of Fire Commissioners for the year ending on the thirty-first day of December, eighteen hundred and ninety-four, shows the operation of the department during that period of time.

Since the last report of this Board there has been no increase in the number of firemen, but two engine houses, known as Nos. 17 and 19 Engine Houses, have been completed, and are ready for occupancy. A new house has also been erected for a new truck company, to be known as No. 10 Hook and Ladder Company. It remains with your honorable body to make the necessary appropriation for the payment of the salaries of the firemen and the necessary equipment and apparatus

in these houses. The sooner this is done the better. The neighborhoods where these houses were erected are in great need of the protection that will be afforded by the occupation and operation of these houses by this department.

The recommendations of every previous report of the Fire Commissioners are again made. There should be an increase in the powers delegated to this Board by the ordinances creating it. This department should have the power to compel the erection of fire escapes in all buildings, and, also, the power to prevent the erection of dangerous and unsafe buildings. As the law now stands, this Board is powerless to protect the lives and property of the citizens against the dangerous buildings already erected, and in course of erection, in almost every part of the city. Its powers are confined solely to putting out fires with the limited means in its hands. All the machinery, horses and equipments belonging to the department are in good condition, and of the best quality and latest pattern.

The Board would again urge on your honorable body the passage of an ordinance for the purchase of a building within the city limits for the care of sick and injured horses, and where the reserve horses of the department could be kept. The cost of such a building would be small, but the saving would be very great. There is no place of the kind in the department, and a

sick horse is subjected to all the noise, excitement and discomfort of an engine house. This depot, which should be located near the centre of the city, could also be used for the training of newly-purchased horses, which are frequently ruined by being placed on duty without any training to fit them for their duties, manner and change of life.

There should be a stringent building law enacted whereby a great saving from loss by fire could be made. In many instances the smallest fire will destroy the whole property owing to the defective character of the woodwork and brickwork of the building.

Under an ordinance of the city a system of conduits is being built for the wires of the department, which, when finished, will greatly add to the efficiency and safety of the electrical plant of this department.

In some portions of the city there should be an increase of the water supply for the use of the department.

It is suggusted that a vast improvement could be made in the efficiency of the department by doing away with the substitute system and having a body of men who should receive an annual salary of five hundred dollars each. These men should be kept in the service of the department all the time. They should be trained in the knowledge and requirements of fire service, and

from their ranks all firemen selected to fill places made vacant by death, dismissal and other causes should be made. Ten men would be all that would be necessary to form this body.

Instead of the department being filled with a number of substitutes, who sometimes perform efficient, and at other times are utterly inefficient and worthless, the Board of Fire Commissioners would have a trained body of firemen from which to select efficient and proper persons to fill vacancies. As it is now, a man brings recommendations and certificates of good character and efficiency for the place of substitute. He is under no control of the officers of the department except when on duty at the engine houses. He receives no compensation, except he is paid by the member whose place he takes. He comes and goes as he pleases, and is a fruitful source of friction in the ranks of the regular firemen. He is sometimes a most worthy and desirable member of the department, but in many instances is a drunken loafer forced on the Board by the influence of friends and his own persistent effort to obtain a place which permits him to lead to some extent a vagabond life. It is impossible, of course, for the Board to have personal knowledge of all the applicants for the place of substitute, and the freedom and indifference with which unworthy persons are furnished with certificates of fitness, given by respectable citizens to unworthy persons applying for service in the department, is

astonishing. The whole character of fire service has changed of late years. Putting out a fire is now a matter of business, and the trained expert is the only person who can do it quickly and with least expense and danger.

With improved machinery and appliances, together with trained firemen, the danger becomes less and less, although the character of the buildings erected make the process of putting out fires a more serious one than when a two-story edifice was the rule instead of the exception.

The Board of Fire Commissioners think that the electrical department should be under the supervision and direction of an electrical expert, who would at intervals inspect the machinery of that portion of the department.

Such gigantic strides have been made in all matters pertaining to electricity that it is necessary, in our opinion, to have a supervising examiner of all the machinery, wires and appliances of the electrical portion of the department. A competent engineer could be obtained for comparatively a small salary, and it would add greatly to the efficiency and economy of this department.

With this report is submitted the suggestions and report of the Chief Engineer and Superintendent of

Police and Fire-Alarm Telegraph for the consideration of your honorable body.

The Commissioners file herewith as part of this report, Exhibits A, B, C, D, E, F, G, H, I and K.

Exhibit A shows the amount appropriated by the Mayor and City Council of Baltimore for the year 1894, and the expenditures for that period.

Exhibit B shows the amount of special appropriations and disbursements.

Exhibit C shows the general receipts of the department for 1894.

Exhibit D, and H show the general expenditures for 1894, and Exhibit E the general statement for 1894.

Exhibits F and I show the expenditures of each company.

Exhibit G shows the expenditures of the City Annex for 1894.

Exhibit K shows the monthly expenditures of the City Annex.

The Commissioners append herewith the estimate of the financial requirements of the department for 1895.

ESTIMATE FOR 1895.

Salaries	$243,800 00
Apparatus	6,000 00
Apparatus repairs	9,000 00
Accident	1,500 00
Feed	15,000 00
Fuel	4,000 00
Furniture	3,000 00
Harness	1,000 00
Horseshoeing	3,000 00
Hose and suction tubes	9,000 00
Horses	8,000 00
Gas	1,800 00
Oils and Paints	2,500 00
Office expenses, including printing report and messenger's salary	1,000 00
Rent	600 00
Rent of telephone	805 06
Miscellaneous	2,000 00
Washing	2,200 00
Insurance of members	1,769 56
Sick	1,000 00
Salaries for ex-members	6,300 00
Police and Fire-Alarm Telegraph	22,058 63
Total	$345,333 25

ESTIMATE FOR 1895—"ANNEX."

Salaries	$32,700 00
Apparatus	100 00
Apparatus repairs	1,000 00
Accident	150 00
Feed	3,200 00
Fuel	600 00
Furniture	250 00
Harness	250 00
Horseshoeing	550 00
Hose and suction tubes	300 00
Horses	2,500 00
Gas	300 00
Oils and paints	600 00
Rent	360 00
Rent of telephones	80 00
Miscellaneous	300 00
Office expenses	300 00
Washing	275 00
Insurance of members	245 18
Sick	250 00
Police and Fire-Alarm Telegraph	1,000 00
Total	$45,310 18

J. ALEXANDER PRESTON,
President.

JOHN F. HUNTER,
GEORGE MAY,
Fire Commissioners.

EXHIBITS.

EXHIBIT A.

Appropriation.

Amount appropriated by Honorable Mayor and City Council for the year of 1894...	$350,062 10
Amount drawn from City Comptroller....	349,781 29
Balance undrawn.....	$280 84

EXHIBIT B.

Special Appropriations.

Amount appropriated to repair fire alarm boxes and apparatus in telegraph office destroyed by storm and electric-light wires	$ 1,605	55
Amount drawn from City Comptroller	1,605	55
Amount appropriated for fire-alarm boxes at various places	1,025	00
Amount drawn from City Comptroller	1,000	00
Balance undrawn	$25	00
Amount appropriated for lot of ground upon which to erect an engine house	2,000	00
Amount drawn from City Comptroller	1,502	80
Balance undrawn	$497	20

EXHIBIT C.

General Receipts.

Balance on hand, store-room stock, December, 1893	$	50 00
Amount drawn from City Comptroller for the year 1894	349,781	29
Amount received from sale of manure and old material	247	90
Amount received from Accident Insurance Company	947	15
Total	$351,026	34

EXHIBIT D.

Showing the amount expended for the year ending December 31, 1894.

Salaries	$243,800 00
Apparatus	10,827 20
Apparatus repairs	8,315 37
Accident	1,419 65
Feed	13,277 07
Fuel	3,709 88
Furniture	3,525 58
Harness	414 83
Horseshoeing	2,550 20
Hose and suction tube	9,949 42
Horses	8,165 00
Gas	1,704 12
Oils and paints	2,462 89
Office expenses, including printing report and messenger's salary	910 48
Rent	600 00
Rent of telephones	526 00
Miscellaneous	1,768 78
Washing	2,246 75
Insurance of members	2,373 80
Salaries for ex-members	4,910 62
Sick	1,825 49
Police and Fire Alarm Telegraph	24,498 16
	$349,781 29
Insurance indemnity paid to members	947 15
	$350,728 44

EXHIBIT E.

General Statement.

Receipts from all sources....		$351,026 34
Expenditures.....	$350,728 44	
Amount paid to City Register	247 90	
	$350,976 34	
Balance storeroom stock, December 31, 1894.....	50 00	
		$351,026 34

EXHIBIT F.

Company Expenditures.

No. 1 Engine Company	$12,984 28
" 2 " "	13,840 00
" 3 " "	12,259 77
" 4 " "	13,797 08
" 5 " "	11,798 69
" 6 " "	13,365 27
" 7 " "	12,541 61
" 8 " "	12,579 40
" 9 " "	12,280 18
" 10 " "	12,850 08
" 11 " "	12,644 55
" 12 " "	17,109 95
" 13 " "	13,907 60
" 14 " "	11,484 66
" 15 " "	22,977 72
" 16 " "	15,513 75
" 1 Hook and Ladder Company	11,156 56
" 2 " " "	12,368 73
" 3 " " "	11,771 55
" 4 " " "	13,072 27
" 5 " " "	11,984 99
" 6 " " "	15,223 56
	$297,512 25
Rent of telephones	526 00
Reserves	1,516 97
Officers' salaries and expenses	18,746 76
Office expenses	910 48
Miscellaneous	1,160 05
Salaries for ex-members	4,910 62
Police and Fire Alarm Telegraph	24,498 16
	$349,781 29

EXHIBIT G.

City Annex Appropriation.

Amount appropriated by Honorable Mayor and City Council for the year of 1894....	$45,700 00
Amount drawn from City Comptroller.....	45,515 61
Balance undrawn.....	$184 39

EXHIBIT H.

Showing the amount Expended for the Annexed District for the Year ending December 31, 1894.

Salaries	$32,226 73
Apparatus	1,700 00
Apparatus repairs	855 63
Accident	86 86
Feed	3,120 96
Fuel	529 43
Furniture	104 34
Harness	270 00
Horseshoeing	501 50
Hose	291 45
Horses	2,275 00
Gas	278 00
Oils and paints	564 65
Office expenses	300 00
Miscellaneous	213 30
Rent	360 00
Washing	256 00
Insurance of members	328 90
Sick	244 63
Rent of telephones	80 00
Police and Fire-Alarm Telegraph	928 23
	$45,515 61

EXHIBIT I.

Company Expenditures.

No. 1 Chemical Company	$3,644 22
" 2 " "	3,565 50
" 3 " "	3,068 84
" 4 " "	3,934 61
" 5 " "	3,149 17
" 6 " "	3,166 15
" 7 " "	4,287 07
" 18 Engine "	11,822 56
" 7 Hook and Ladder Company	1,279 17
" 8 " " " "	1,128 87
" 9 " " " "	1,066 26
	$40,112 42
Officers' salary and expenses	1,997 23
Rent of telephones	80 00
Reserves	2,029 73
Office expenses	300 00
Miscellaneous	68 00
Police and Fire Alarm Telegraph	928 23
	$45,515 61

EXHIBIT K.

Monthly Expenditures.

January,	Warrants	1	to	14	$3,266	78
February,	"	15	"	28	3,438	06
March,	"	29	"	42	3,600	09
April,	"	43	"	57	3,289	53
May,	"	58	"	71	3,698	85
June,	"	72	"	83	4,319	16
July,	"	84	"	95	3,706	17
August,	"	96	"	104	4,999	88
September,	"	105	"	116	3,990	96
October,	"	117	"	132	3,952	36
November	"	133	"	144	3,591	06
December,	"	145	"	159	3,662	71
					$45,515	61

Dr. *Financial Statement of the Fire Department*

1893.						
Dec. 31, To balance storeroom account....					$	50 00
1894.						
January, Warrants	1	to	54	.....	31,442	98
February, "	55	"	99	.....	27,101	76
March, "	100	"	151	.....	27,582	32
April, "	152	"	200	.....	28,543	07
May, "	201	"	257	.....	32,774	36
June, "	258	"	311	.....	27,831	04
July, "	312	"	365	.....	37,539	48
August, "	366	"	417	.....	25,867	89
September, "	418	"	461	.....	35,281	40
October, "	462	"	512	.....	26,200	93
November, "	513	"	564	.....	29,106	87
December, "	565	"	597	.....	24,617	54
					$353,939	64
Old material					247	90
Insurance indemnity					947	15
					$355,134	69

for twelve months ending December 31, 1894. Cr.

1894.		
January, Expenditures		$31,442 98
February,	"	27,101 76
March,	"	27,582 31
April,	"	28,543 07
May,	"	32,774 36
June,	"	27,831 04
July,	"	37,539 48
August,	"	25,867 89
September,	"	35,281 40
October,	"	26,200 93
November,	"	29,106 87
December,	"	24,617 54
		$353,889 64
Amount paid to City Register		247 90
Amount paid, insurance indemnity		947 15
Storeroom account, Dec. 31, 1893		50 00
		$355,134 69

SUMMARY.

City.	Appropriations.	Expenditures.	Balances.
Fire Department...	$325,283 45	$325,283 13	$ 32
P. & F. A. Telegraph	24,778 65	24,498 16	280 49
Special Fire Dep't..	2,000 00	1,502 80	497 20
Special Telegraph..	2,630 55	2,605 55	25 00
	$354,692 65	$353,889 64	$803 01
Annex.			
Fire Department...	44,700 00	44,587 38	112 62
P. & F. A. Telegraph	1,000 00	928 23	71 77
	$400,392 65	$399,405 25	$987 40
	.....	987 40	.....
	$400,392 65	$400,392 65	.....

1893.			
Dec. 31,	Balance, store room account.		$50 00
1894.			
Dec. 31,	Paid out for storeroom account.....	3,344 28	
			$3,394 28
1894.			
Dec. 31,	Delivered to companies from storeroom	$3,344 28	
	Balance, storeroom account	50 00	
			$3,394 28

REPORT

— OF THE —

Chief Engineer.

REPORT.

BALTIMORE CITY FIRE DEPARTMENT,

OFFICE OF CHIEF ENGINEER—CITY HALL,

BALTIMORE, January 1, 1895.

To the Honorable Board of Fire Commissioners:

GENTLEMEN:

I have the honor herewith to submit to you the annual report of the Fire Department for the fiscal year ending December 31st, 1894, which is the thirty-sixth report of the Paid Fire Department of Baltimore City.

While excellent service has been rendered by the members of the department during the past year, experience has demonstrated the necessity of many additional facilities to enable the department to render the best service, and to have our city compare favorably with other cities of like size and population.

In that connection I submit a tabulated statement of the fire department statistics of several other cities, showing how feebly we are equipped in companies, members, apparatus and plugs, as compared with them, and earnestly request that such recommendations as I shall hereinafter make be carried out so that we make all the improvements possible during the year 1895.

TABLE OF COMPARATIVE FIRE DEPARTMENT STATISTICS.

City.	Area Sq. Miles.	Population	Engine Companies	Hook and Ladder Companies	Chemical Engine Companies	Water Towers.	Fire-boats.	Members.	Fire-plugs.
New York	41½	1,715,721	63	27	5	3	3	1,070	9,031
Chicago	181¾	1,200,000	76	28	23	1	4	1,005	14,104
Philadelphia	129⅛	1,142,653	41	12	2	1	1	594	8,447
Boston	34½	448,477	40	17	10	2	1	762	6,800
Brooklyn	22	978,394	30	11	.....	1	1	641	4,760
Baltimore	33	434,439	16	6	8	1	1	304	1,420
St. Louis	61¾	451,770	35	13	4	1	.....	417	4,088
Cincinnati	24	315,000	26	10	3	.....	.....	298	1,750
Detroit	28	250,000	20	10	6	1	1	300	2,294
Minneapolis	9	206,000	18	5	8	1	.....	266	2,736
Buffalo	40	255,664	23	9	4	1	1	345	3,100
San Francisco	40	298,997	18	5	3	1	.....	404	1,909
Louisville	13½	161,129	14	6	.....	.....	.....	144	681
New Orleans	38	242,039	25	8	9	.....	.....	273	1,220
St. Paul	55	150,000	13	10	8	1	.....	199	1,968
Milwaukee	.....	204,468	15	7	7	1	1	253	1,800
Pittsburgh	27¾	263,312	19	6	2	.....	.....	239	1,858

I repeat my recommendation in my last report that another lieutenant, another assistant engineman, and six pipemen be placed in No. 4 Engine Company, so as to make that company a double company, with two sets of apparatus, so that when one section answers an alarm of fire the other will take its place as is now done in No. 15 Engine Company. This will practically place an additional engine company in the business section of the city, where it is much needed.

I again recommend that another lieutenant, another assistant tillerman, and six laddermen should be placed in Nos. 4 and 5 Hook and Ladder Companies, so as to make them double hook and ladder companies, with two sets of apparatus and members, under the same conditions as the double engine companies, so that in case of a large fire occurring, calling the six hook and ladder companies in the city in service, there will still be two hook and ladder companies in reserve to respond to another fire. We cannot depend on the small hook and ladder trucks in the Annex, as they are too far distant to be of much service, and are only manned by one man each, who is the driver.

An additional member should be placed in each of No. 1 and 2 Hook and Ladder Companies, so as to bring them up to the standard number of members (twelve) of the hook and ladder companies.

An additional member should be placed in No. 7

Chemical Engine Company, and in each of Nos. 7, 8 and 9 Hook and Ladder Companies, as the constant increase in buildings in the Annex district necessitates the increased force to properly handle the apparatus.

I again recommend that ten probationary members be appointed, who shall receive a salary of five hundred dollars each, per annum, be uniformed and stationed at the houses of the central companies from which they can be detailed to other companies to fill the places of the members who are off duty, sick, injured, or on special leave of absence.

The book of assignments has been revised to meet the requirements of the new companies in answering alarms of fire, and additional copies will be necessary.

I again recommend that the No. 18 Engine and No. 3 Chemical Engine Companies, now occupying one house, be consolidated as one company, (No. 18 Engine Company,) having fifteen members, and under one captain and two lieutenants.

I also recommend that the houses of the department be equipped with the Exchange Telephone of the Chesapeake and Potomac Telephone Company, as the same are invaluable in case of derangement of the regular wires of the Fire Alarm Telegraph in regulating and directing the movements of the several companies and receiving their return signals during an alarm of fire.

The necessity for a provision of this kind was shown during the burning of the Telegraph Office, in July of this year, when we had to depend on the courtesy of neighboring telephone subscribers and the telephone exchange for this purpose.

I recommend that the necessary apparatus and equipments for Nos. 17 and 19 Engine Companies, and No. 10 Hook and Ladder Company, be purchased as soon as possible and the companies placed in service, as the houses are completed and awaiting occupancy, and the department is much in need of the facilities which these companies can afford, and the several neighborhoods are in need of the protection which a company near at hand can give them.

Physical Qualifications for Members.

All applicants for positions in the service of the department have to undergo an examination in regard to their physical condition. Members of engine companies are required to be not less than five feet and five inches in height, and thirty-four inches around the chest; and members of hook and ladder companies are required to be five feet and seven inches in height, and thirty-six inches around the chest.

All members of the department receive their full pay when off duty, injured or sick; and when injured, five dollars additional per week from insurance, and in case

of death from injuries received while performing duty, five hundred dollars is paid by the city, and five hundred dollars is paid by the insurance company to the widow or other representative of the deceased member.

Manual Force of the Department.

OFFICERS:

Chief Engineer	1
District Engineers	6
Superintendent of Machinery	1
	8

ENGINE COMPANIES.	Permanent Uniformed Members.
No. 1 Engine Company	11
" 2 " "	12
" 3 " "	11
" 4 " "	12
" 5 " "	11
" 6 " "	12
" 7 " "	11
" 8 " "	11
" 9 " "	11
" 10 " "	11
" 11 " "	11
" 12 " "	11
" 13 " "	11
" 14 " "	11
" 15 " "	20
" 16 " "	12
" 18 " "	12
	201

Chemical Engine Companies.	Permanent Uniformed Members.
No. 1 Chemical Engine Company	3
" 2 " " "	3
" 3 " " "	3
" 4 " " "	4
" 5 " " "	3
" 6 " " "	3
" 7 " " "	3
	22

Hook and Ladder Companies.	Permanent Uniformed Members.
No. 1 Hook and Ladder Company	11
" 2 " " "	11
" 3 " " "	12
" 4 " " "	12
" 5 " " "	12
" 6 " " "	12
" 7 " " "	1
" 8 " " "	1
" 9 " " "	1
	73

Force and Pay Roll.

		Per Annum.
1	Chief of Department	$2,000
6	District Engineers, each	1,400
1	Superintendent of Machinery	1,400
23	Captains of Engine and Hook and Ladder Companies, each	1,100
7	Captains of Chemical Engine Companies, each	900
24	Lieutenants, each	1,000
17	Enginemen, each	1,100
19	Assistant Enginemen, each	900
2	Pilots on Fire-boat, each	1,000
12	Tillermen on Hook and Ladder Companies, each	900
22	Hostlers of Engine and Hook and Ladder Companies, each	900
10	Hostlers of Chemical Engines and Annex Hook and Ladder Companies, each	800
117	Pipemen of Engine Companies, each	800
40	Laddermen of Hook and Ladder Companies each	800
3	Stokes on Fire-boat, each	800
304	Members.	
21	Members retired from service, and employed, each	400

The following changes were made in the Department.

	Deaths.	Resignations.	Dismissals.	Appointments.	Transfers.	Promotions.
OFFICER.						
District Engineer.	....	....	1	....	1	....
COMPANIES.						
No. 1 Engine Company	....	....	....	1	2	....
" 2 " "	1	....	2	2	3	1
" 3 " "	....	....	....	....	1	....
" 4 " "	....	....	....	1	7	2
" 5 " "	....	....	....	....	....	....
" 6 " "	1	....	....	....	1	....
" 7 " "	....	....	1	2	3	....
" 8 " "	....	....	....	....	....	....
" 9 " "	....	....	....	.....	1	....
" 10 " "	....	....	....	....	....	....
" 11 " "	....	....	....	....	....	....
" 12 " "	....	....	....	....	....	....
" 13 " "	1	1	....	3	2	3
" 14 " "	....	....	....	....	2	....
" 15 " "	....	....	1	3	4	2
" 16 " "	....	....	....	....	1	....
" 18 " "	....	....	....	....	1	....
" 1 Chemical Engine Co.	....	....	....	....	....	....
" 2 " " "	....	....	....	....	....	....
" 3 " " "	....	....	....	....	....	....
" 4 " " "	....	....	1	1	....	....
" 5 " " "	....	....	....	....	....	....
Amount carried forward..	3	1	6	13	29	8

The following changes were made in the Department

CONTINUED.

	Deaths.	Resignations.	Dismissals.	Appointments.	Transfers.	Promotions.
Amount brought forward	3	1	6	13	29	8
No. 6 Chemical Engine Co.	....	....	....	....	1	....
" 7 " " "	....	....	....	....	....	....
No. 1 Hook and Ladder Co.	....	....	....	....	....	2
" 2 " " "	....	1	1	2	1	....
" 3 " " "	....	....	1	1	....	....
" 4 " " "	....	....	2	3	1	2
" 5 " " "	....	....	....	....	1	1
" 6 " " "	....	1	....	....	....	....
" 7 " " "	....	....	....	....	....	....
" 8 " " "	....	....	....	....	....	....
" 9 " " "	....	....	....	....	....	....
	3	3	10	19	33	13

TABLE

Showing the Number of Fire Alarm Boxes that each Company responds to on the first, second and third alarms.

City Companies.	First Alarm.	Second Alarm.	Third Alarm.	Total Number of Boxes.
No. 1 Engine Company	57	158	60	275
" 2 " "	74	60	95	229
" 3 " "	66	83	41	190
" 4 " "	72	131	63	266
" 5 " "	67	34	51	152
" 6 " "	77	96	51	224
" 7 " "	79	137	90	306
" 8 " "	86	62	67	215
" 9 " "	97	31	16	144
" 10 " "	78	71	68	217
" 11 " "	48	21	5	74
" 12 " "	32	18	22	72
" 13 " "	67	54	56	177
" 14 " "	53	17	40	110
" 15 " "	77	127	64	268
" 15 Chemical Engine Company	95	1	....	96
Water Tower	32	68	....	100
No. 16 Engine Company	57	....	....	57
" 1 Hook and Ladder Company	59	72	64	195
" 2 " " "	82	124	28	234
" 3 " " "	73	27	17	117
" 4 " " "	72	99	53	224
" 5 " " "	57	86	43	186
" 6 " " "	48	44	33	125

ANNEX DISTRICT.

Number of Boxes responded to.

Companies.	First Alarm.	Second Alarm.	Third Alarm.	Total Number of Boxes.
No. 18 Engine Company	64	9	28	101
" 1 Chemical Engine Company..	14	14	....	28
" 2 " " " ..	26	34	....	60
" 3 " " " ..	29	26	....	55
" 4 " " " ..	18	14	....	32
" 5 " " " ..	20	11	....	31
" 6 " " " ..	19	82	1	102
" 7 " " " ..	10	....	....	10
" 7 Hook and Ladder Company..	14	....	....	14
" 8 " " " " ..	17	....	....	17
" 9 " " " " ..	11	....	....	11

Service of Engine, Chemical Engine, and Hook and Ladder Companies at Fires.

Companies.	Number of Times Responded to Fires.	Number of Times Transferred on Alarms.	Number of Feet of Hose Laid at Fires.	Working Time of Companies at Fires.	
				Hours	Min.
No. 1 Engine Company...	128	....	27,300	60	35
" 2 " " ...	145	....	35,400	91	19
" 3 " " ...	188	....	25,200	32	40
" 4 " " ...	161	....	31,000	54	....
" 5 " " ...	168	25	19,350	49	30
" 6 " " ...	155	6	21,450	35	....
" 7 " " ...	144	....	21,650	77	30
" 8 " " ...	105	6	17,500	37	30
" 9 " " ...	194	26	23,450	41	15
" 10 " " ...	133	3	17,650	72	10
" 11 " " ...	116	34	14,000	23	20
" 12 " " ...	57	24	21,250	40	45
" 13 " " ...	117	20	16,850	42	30
" 14 " " ...	47	1	4,950	6	25
" 15 (1st section).....	153	....	17,500	46	59
" 15 (2d section).....	7	....	500	....	40
" 15 (Chemical).....	180	....	7,050	18	30
Water tower.....	76	....	.....	2	30
No. 16 Engine Company..	131	....	3,500	12	05
" 18 " " ..	118	10	33,900	51	05
	2,523	155	359,450	796	58

Service of Companies at Fires.

Companies.	Number of Times Responded to Fires.	Number of Times Transferred on Alarms.	Number of Ladders used at Fires.	Working Time of Companies.	
				Hours.	Min.
No. 1 Hook & Ladder Co.	141	22	241	187	20
" 2 " "	151	24	283	253	25
" 3 " "	156	23	189	140	55
" 4 " "	124	30	175	160	.....
" 5 " "	95	36	147	223	45
" 6 " "	102	14	348	134	.....
	769	149	1,383	1,099	25

Chemical Fire Extinguishers.

The six-gallon fire extinguishers were used 1,149 times, and the fifteen-gallon fire extinguishers that are carried on No. 1 Hook and Ladder Truck were used 97 times, having discharged 8,349 gallons of the solution at fires.

The tanks of the fifty-gallon Chemical Engine that is run by No. 15 Engine Company have been emptied 34 times, discharging 2,780 gallons of the solution.

ANNEX DISTRICT.

Service of Chemical Engine Companies at Fires.

Companies.	Number of Times Responded to Fires.	Number of Times Transferred on Alarms.	Number of Tanks used at Fires.	Number of feet of Hose laid at Fires.	Time in Service.	
					Hours	Min.
No. 1 Chemical Eng. Co..	11	....	4	450	3	38
" 2 " " ..	56	....	42	6,250	105	10
" 3 " " ..	65	2	57	6,250	102	47
" 4 " " ..	28	....	20	2,550	26	31
" 5 " " ..	29	2	25	2,900	36	42
" 6 " " ..	35	....	39	2,500	20	08
" 7 " " ..	33	....	47	3,800	77	46
	257	4	234	24,700	372	42

ANNEX DISTRICT.

Service of Hook and Ladder Trucks.

Companies.	Number of Times Responded to Fires.	Number of Ladders used.	Fire Extinguishers used.	Times in Service.	
				Hours	Min.
No. 7 Hook and Ladder Co....	25	26	15	20	11
" 8 " "	11	13	1	4	02
" 9 " "	33	40	31	70	20
	69	79	47	94	32

Number of gallons of chemical solution used 17,000.

CASUALTIES.

Company.	Position.	Name.	Date.	Box	Time Off Duty.	Nature of Injury.
No. 1 Engine	Pipeman	Ed. R. Addison	April 2	237	20 days	Left knee bruised by kick of horse.
" 1 "	Pipeman	Charles C. Stone	May 28		9 "	Left leg bruised.
" 3 "	Pipeman	Robt. H. Dougherty	January 2	214	49 "	Right foot mashed by engine.
" 3 "	Lieutenant	M. C. Bollman	March 13	13	13 "	Contusion of left knee.
" 4 "	Engineman	John Gaffney	May 25	51	17 "	Contusion of testicles.
" 5 "	Pipeman	John H. Reitz	January 13	214	8 "	Left wrist sprained.
" 5 "	Pipeman	William Hastler	November 3		13 "	Kicked in stomach by horse.
" 7 "	Substitute	George Youse	Dec. 22 (1893)	383	31 "	Contusion of left side.
" 7 "	Pipeman	George Schneider	August 21	39	58 "	Enlargement of groins from strain.
" 7 "	Pipeman	Chas. A. Soistman	November 7	319		Cut over right eye.
" 8 "	Pipeman	John J. Murphy	January 10	248	7 "	Left eye burnt.
" 9 "	Pipeman	Elias J. Kipp	October 29	28	16 "	Left leg skinned.
" 9 "	Captain	David H. Macaulay	November 6	155	Still off	Right shoulder dislocated.
" 11 "	Substitute	Philip Peacock	November 9	182	7 days	Right side bruised.
" 12 "	Pipeman	Peter McGonigle	August 3	546	11 "	Right thumb sprained.
" 12 "	Hostler	Joseph W. Moon	October 25			Bitten on head by horse.
" 13 "	Substitute	Albert Schyne	April 9	359	8 "	Right hand burned.
" 13 "	Pipeman	James Keyser	April 17	363	54 "	Knee cap mashed and body scalded. Died June 10.
" 13 "	Pipeman	Philip Bowen	May 14	384	6 "	Right knee cap bruised.
" 13 "	Captain	John Hoffman	July 10	384	7 "	Overcome by heat and smoke.
" 14 "	Hostler	John W. Cook	May 26	425	27 "	Left rib fractured and lower lip cut.
" 14 "	Pipeman	Leonard Jessop	July 4		5 "	Finger cut.
" 15 "	Pipeman	Jacob W. Dohler	October 12		43 "	Left arm broken while off duty.
" 18 "	Pipeman	A. J. McCormick	October 31	342	5 "	Pick run in heel.

CASUALTIES—Concluded.

Company.	Position.	Name.	Date.	Box	Time Off Duty.	Nature of Injury.
No. 18 Engine.....	Engineman..	Thomas S. Brown..	October 31.....	342	....	Head cut.
" 18 "	As. Engin'an	John I. Cranford ...	November 22...	244	7 days....	Right ankle sprained.
No. 1 Hook and Ladder.	Captain.....	E. Louis Shipley....	June 23.....	13	5 " . ..	Right leg bruised.
" 1 " " .	Ladderman..	Z. Taylor Seebreeze	June 23.....	13	9 "	Finger cut.
" 1 " " .	Captain.....	E. Louis Shipley....	August 21.....	51	37 "	Tendons on back of left hand cut.
" 2 " " .	As. Tillerm'n	Emil Heise.....	July 4.....	143	15 "	Shoulder and breast scalded.
" 2 " " .	Ladderman..	William H. Stapf...	October 7.....	.....	21 "	Lower jaw broken while off duty.
" 4 " " .	Ladderman..	William Leonard...	June 2.....	364	18 "	Left hand cut.
" 5 " " .	Substitute....	Thomas W. McKew	April 7.....	273	10 "	Face and hand burnt.
" 5 " " .	Ladderman..	Howard E. Curry...	November 6 ...	.....	6 "	Splinter in left thumb.
" 6 " " .	Substitute....	William Leonard ..	Dec. 2 (1893)...	436	18 "	Finger mashed.
" 6 " " .	Hostler.....	George D. Taylor...	March 31.....	163	21 "	Both ankles sprained.
" 6 " " .	Ladderman..	William Lalotte	November 21...	.....	7 "	Left ankle sprained.
No. 2 Chemical.....	Captain.....	James H. Merrick..	July 10.....	384	2 "	Overcome by heat and smoke.
" 4 "	Hostler.....	Owen McGreevey...	May 5.....	145	5 "	Lacerated wound of chin.

On February 1st, Assistant Engineer George W. Ellender was retired and placed on the pension roll on account of general physical debility.

On February 1st, Assistant Engineer William M. Dunn was transferred from the Third District to the Second District in place of Assistant Engineer George W. Ellender, placed on the pension roll, and Captain William C. McAfee of No. 4 Engine Company was promoted Assistant Engineer and assigned to the Third District.

On March 20th, Ladderman Robert M. Brown of No. 2 Hook and Ladder Company was placed on the pension roll by ordinance of the Mayor and City Council of Baltimore on account of physical injuries received in the service of the department.

On May 29th, by the opinion of the City Solicitor, the law of the State under which the old and disabled members of the department were pensioned was declared unconstitutional, and they ceased to draw salary, which was a great hardship to a deserving class of persons.

On October 1st, by ordinance of the Mayor and City Council of Baltimore the Board of Fire Commissioners was authorized to employ the former pensioned members at the same salary they had formerly received, $400 per annum, and in pursuance of this authority they were assigned to such light duties about the several houses of the department as they were severally able to perform.

DEATHS OF MEMBERS.

No. 2 Engine Company—Lieutenant C. Henry Hammel died April 17, of catarrh of stomach, after an illness of 130 days. He was 40 years of age, and had been a member of the department seven years.

No. 6 Engine Company—Hostler Benjamin F. Seipp died July 3 of consumption after an illness of 119 days. He was 40 years of age, and had been a member of the department thirteen years.

No. 13 Engine Company—Pipeman James B. Keyser of this company was injured by the overturning of the engine which he was driving in responding to Box 363 on April 17 by having his right leg and knee cap mashed and legs and body scalded. He was in the Maryland General Hospital 53 days and 9 hours, and died from the effect of the amputation of the leg. He was 50 years of age and had been a member of the department ten years.

APPARATUS IN SERVICE.

One fire-boat named *Cataract.*
One Hale water-tower.
One extra first-class steam fire-engine.
Three first-class steam fire-engines.
Seven second-class steam fire-engines.
Five third-class steam fire-engines.
Sixteen heaters for steam fire-engines.

Fifteen hose wagons.

Eleven hose carriages.

Two first size Hayes' extension ladder trucks, 85 feet.

Four second size Hayes' extension ladder trucks, 70 feet.

Three small bank ladder trucks with chemical engine companies.

One double tank chemical engine, 100 gallons each tank.

Two double tank chemical engines, 85 gallons each tank.

Five double tank chemical engines, 50 gallons each tank.

Fifty chemical fire extinguishers, 6 gallons each.

Two chemical fire extinguishers, 15 gallons each.

Eight Concord wagons with gongs and striking machinery for officers.

One wrecking truck to carry broken apparatus on.

Ten circular nets for people to jump in at fires.

One wagon for carrying supplies.

Three covered wagons for linemen, Telegraph Department.

One large covered wagon for material, Telegraph Department.

One carriage used by Superintendent, Telegraph Department.

One large and one small carriage for use of Commissioners.

APPARATUS IN RESERVE.

One first-class steam fire-engine.

Five third-class steam fire-engines.

One fourth-class steam fire-engine, loaned to Health Department.

One Hayes' extension ladder truck, 85 feet.

One Hayes' extension ladder truck, 56 feet.

One bank ladder truck, with Bangor extension, 65 feet.

One small bank ladder truck.

Two double tank chemical engines, 50 gallons each tank.

Two chemical fire extinguishers, 15 gallons each.

Two Concord wagons, with gongs and striking machinery.

NEW APPARATUS PURCHASED IN 1894.

One second size double vertical crane-neck piston steam fire-engine, built by the LaFrance Company, with improved pumps; diameter of pumps, $4\frac{3}{4}$ inches, diameter of steam cylinders, $8\frac{1}{4}$ inches, length of stroke, 8 inches, diameter of boiler, 33 inches, height of boiler, 62 inches, capacity of engine, 750 gallons per minute; weight when ready for service 8,660 pounds, was placed in service at No. 12 Engine Company, September 17, 1894.

One second size Haye's Extension Ladder Truck, built by the LaFrance Company, with seventy-foot extension

ladder, and all other necessary equipments and latest improvements, was placed in service at No. 6 Hook and Ladder Company, September 17, 1894.

Four hose-wagons, manufactured by the Leonhardt Wagon Manufacturing Company, were placed in service in Nos. 8, 10, 11 and 12 Engine Companies, respectively, on October 29, 1894.

Two six-gallon extinguishers, made by Charles T. Holloway, were placed in service, one at No. 12 Engine Company, and one at Fire-alarm Telegraph Office, City Hall.

Two new double-pole arrangements were received from the LaFrance Company, with the new engine and hook and ladder truck, and were placed in service accordingly.

Full platform springs and front running gear were placed under No. 15 Engine by the Leonhardt Wagon Manufacturing Company.

A new syphon-pump, made by Andrew J. Morse & Son, of Boston, Mass., for pumping water from cellars or excavations, was placed in service and will be a great saving in the wear and tear of the engine heretofore used for this purpose.

A dynamo and searchlight and 19 incandescent lamps, furnished by David E. Evans & Company, were erected

on the Fire-boat *Cataract*, and have already been of great service on several occasions during fires around the water front. Eight incandescent lamps were also furnished for quarters of No. 16 Engine Company, by the same firm, the power for which is generated by dynamo on boat.

A new cylinder and pump for No. 13 Engine from the American Fire Engine Company.

ANNEXED DISTRICT.

A new double-tank chemical engine of 60 gallons capacity, built by Charles T. Holloway, as a reserve engine, was placed in service accordingly.

DESCRIPTION OF ENGINES.

ENGINES.	BUILT BY.	WHEN BUILT.	REBUILT BY.	WHEN REBUILT.	SIZE.	CYLINDERS.		PUMPS.		BOILERS.		GALLONS PER MINUTE.	WEIGHT AS DRAWN TO FIRES.	STYLE OF ENGINE.
						Diameter	Stroke.	Diameter	Stroke.	Diameter	Height.			
Engine No. 1	La France Co	1893			2d	8¼	8	4¾	8	33	62	750	8,200	Vertical, crane-neck, piston double.
" " 2	La France Co	1889			1st	8¾	8	5	8	36	60	900	9,600	" " " "
" " 3	Ives & Bro	1874	La France Co	1892	1st	8½	10	5	10	38	64	1,000	10,760	" " " "
" " 4	La France Co	1892			1st	8¼	9	5	9	36	60	900	9,600	" " " "
" " 5	Clapp & Jones	1885			3d	6¼	7	3¾	7	32	60	500	6,700	Horizontal, half crane-neck, piston double.
" " 6	La France Co	1890			2d	8¼	8	4¾	8	32	60	700	8,500	Vertical, crane-neck, piston double.
" " 7	La France Co	1891			3d	7⅜	8	4¼	8	30	60	600	7,120	" " " "
" " 8	La France Co	1888			3d	8⅛	6	4¾	6	30	60	600	7,100	" " " "
" " 9	La France Co	1886			2d	7¾	8	4⅜	8	32	60	700	7,480	" " " "
" " 10	Clapp & Jones	1886			2d	7½	7	4⅝	7	32	60	700	7,180	" " " "
" " 11	La France Co	1889			2d	8¾	8	4¾	8	34	60	750	8,400	" " " "
" " 12	La France Co	1894			2d	8¼	8	4¾	8	33	62	750	8,660	" " " "
" " 13	Silsby Manufacturing Co.	1887			2d	Rotary pump.				34	60	600	6,700	Rotary, " " "
" " 14	Clapp & Jones	1888			3d	7	7	4⅜	7	32	60	600	6,990	Vertical, " " "
" " 15	Clapp & Jones	1891			1st	9¾	8	5¾	8	38	62	1,000	9,460	" " " "
" " 16, (Fire-boat)..	Hull—Brusstar Bros.... Pump—Thos. Manning.. Engine—E. J. Codd Co..	1891				16	10	9	10	....	....	4,400	.....	Double vertical pumps.
" " 18	La France Co	1893			3d	7⅜	8	4¼	8	32	60	600	7,000	Double verticle, crane-neck piston.
Reserve A	Ives Bros	1872	La France Co	1885	3d	10	12	5¼	12	34	62	500	7,800	Single horizontal, straight frame.
" B	Poole & Hunt	1860	Clapp & Jones	1884	3d	10	12	5	12	32	60	400	7,500	Single verticle, " "
" C	Ives Bros	1876			3d	10	12	5	12	30	62	400	7,500	Single horizontal, " "
" D	Ives Bros	1874	Clapp & Jones	1884	3d	7	7	3¾	7	32	60	500	7,000	Double " " "
" E	Ives Bros	1877			3d	10	12	5	12	32	60	400	7,500	Single " " "
" F	Ives Bros	1875	La France Co	1883	1st	8	10	4¾	10	38	62	900	9,400	Double verticle, crane-neck piston.

ADDITIONAL APPARATUS REQUIRED FOR THE DEPARTMENT.

One second-size and one third-size double vertical crane-neck piston stream fire-engines, the second-size for No. 17 Engine Company, and the third-size for No. 19 Engine Company.

One second-size extension ladder-truck with ladders to reach the height of 70 feet for No. 10 Hook and Ladder Company.

One set of Pompier ladders, to be placed in service at No. 4 Engine Company.

Four hose-wagons to equip the new companies, Nos. 17 and 19, when organized.

Two additional hose-wagons to equip Nos. 13 and 14 Engine Companies, which are the only companies now without them.

HOSE.

Two hundred sections, making ten thousand feet of two and one-half inch hose, complete with couplings, were purchased during the year, of which nine thousand feet was fabric hose and one thousand feet was gum hose, of the following brands: Nine thousand feet of Unique Treated Double Jacket Fabric Hose, and one thousand feet of Maltese Cross Gum Hose, (light weight).

There is now in service fifty-three thousand seven

hundred and fifty feet of reliable hose. Eight thousand and four hundred feet of hose that would not stand the required pressure, (180 lbs. to the square inch), were taken out of the service.

All hose is now tested at intervals, and any that does not stand the test is removed from the line. The so-called medium hose was all tested and found unreliable, and this classification will be no longer used.

There will be required for the department for the next year (1895) eight thousand and nine hundred feet of new hose; eight thousand and four hundred feet of two and one-half inch fabric hose, and five hundred feet of two and one-half inch gum hose.

HOSE.

Engine Companies.	New Hose Received.	New Hose Required.	Fabric Hose in Service.	Gum Hose in Service.	Fabric Hose Condemned.	Gum Hose Condemned.
	Feet	Feet	Feet	Feet	Feet	Feet
No. 1	700	1,000	3,550	150	450	
" 2	800	600	4,350		300	
" 3	800	800	3,150		750	
" 4	1,100	1,000	3,100		1,350	
" 5	600	500	3,200	100	150	100
" 6	600	600	2,750		900	250
" 7	1,000	800	3,250		500	
" 8	850		3,000		200	
" 9	500	500	3,500		350	
" 10	500	600	2,750		500	
" 11	500		1,600	1,500	250	
" 12	500	500		2,600		250
" 13	500	500	3,300		650	
" 14	300		3,400		150	
" 15	700	1,000	3,850		700	
" 16			1,150	500	300	
" 18	500	500	3,000		300	
	10,450	8,900	48,900	4,850	7,800	600

In addition to this, No. 16 Engine Company received 200 feet 1½ inch XX brand gum hose for use on the donkey-pump of fire-boat.

LEADING HOSE FURNISHED TO CHEMICAL ENGINE COMPANIES.

No. 1, 200 feet 1-inch four-ply gum hose.
No. 2, 100 " " " " "
No. 4, 250 " " " " "
No. 6, 150 " ¾ " " " "
Total number of feet, 700.

LEADING HOSE REQUIRED BY CHEMICAL ENGINE COMPANIES FOR 1895.

No. 1, 100 feet 1-inch four-ply gum hose.
No. 2, 100 " " " " "
No. 3, 150 " ¾ " " " "
No. 4, 200 " 1 " " " "
No. 5, 200 " " " " "
No. 6, 150 " ¾ " " " "
No. 7, 150 " 1 " " " "
Total number of feet, 1,050.

HORSES.

There are now in the service of the department one hundred and forty-one horses, and with a few trifling exceptions, they are all in first-class condition. During the year forty-seven horses were purchased, ten of them being for companies in the annexed district. The adoption of the poles to work three horses abreast required a number of extra horses to be purchased. Thirty-three horses that were unfit for service for various causes, were given in exchange, and one died.

The horses are used as follows:

Twelve engine companies, four horses each	48
Four engine companies, five horses each	20
Five hook and ladder companies, three horses each.	15
One hook and ladder company, two horses	2
Seven chemical engine companies, two horses each.	14
One chemical engine company, three horses	3
Three Annex hook and ladder companies, two horses each	6
One water-tower, three horses	3
Officers' and supply wagon	16
Fire Alarm Telegraph Department	6
Reserves	8
	141

There will be thirteen additional horses required during the next year to equip the new engine and hook and ladder companies.

FIRE-ALARM BOXES.

Seven additional fire-alarm boxes were put up, making the total number now in service three hundred and fifty-three, fourteen of which are private boxes, and are placed on the inside of buildings. The new boxes are numbered and located as follows:

144—Reliable Furniture Co., President and Fawn streets.

167—Broadway and Eastern avenue.

188—Boston and Potomac streets.

189—Foster avenue and Robinson street.

229—Fayette and Castle streets.

276—Caroline street, between Hoffman and Oliver streets.

71—Mt. Vernon Shops, Northern Central Railway.

There are now in service one hundred and thirty fire-alarm boxes with keyless doors. No keyless doors were placed on boxes during the past year.

The doors of the following fire-alarm boxes should be changed to keyless doors.

14—No. 3 Engine House, Lombard street.

17—No. 11 Engine House, Eastern and Patterson-Park avenues.

234—Ann and Orleans streets.

24—No. 6 Engine House, Gay and Ensor streets.

257—No. 5 Hook and Ladder House, Aisquith near Oliver street.

259—Biddle and Valley streets.

263—Caroline and Preston streets.

264—Caroline and Monument streets.

27—No. 9 Engine House, Madison street, east of Broadway.

272—Biddle and Wolfe streets.

324—Preston street and Druid Hill avenue.

326—McMechen street and Pennsylvania avenue.

327—McMechen street and Madison avenue.

36—No. 13 Engine House, Fremont and Myrtle avenues.

364—No 4 Hook and Ladder House, Biddle street, near Druid Hill avenue.

367—Myrtle avenue and Hoffman street.

371—Mosher and Gilmor streets.

429—Baltimore and Calhoun streets.

455—No. 8 Engine House, Mulberry street, near Schroeder street.

46—Baltimore and Gilmor streets.

481—No. 14 Engine House, Hollins street, near Monroe street.

53—No. 10 Engine House, Columbia avenue, near Poppleton street.

532—Barre and Warner streets.

534—Ridgely and Hamburg streets.

535—Columbia avenue and Wooster street.

612—Montgomery and William streets.

615—No. 12 Engine House, Fort avenue and Johnson street.

631—No. 6 Hook and Ladder House, Hanover and Ostend streets.

Instructions are placed on the doors of all keyless boxes notifying persons that the hook must be pulled down after opening doors, as many persons suppose that the opening of the door, which rings a vibrating gong to notify persons in the neighborhood that an alarm is being sounded, turns in the alarm also. It has been

frequently the case that persons have opened the doors of such boxes and failed to pull down the hook and sound the alarm, so that the department has been blamed for the delay when in reality they have had no notice of the fire.

LOCATIONS WHERE FIRE-ALARM BOXES ARE REQUIRED.

Hanover and Lombard streets.
Hanover and Conway streets.
Camden and Paca streets.
Hill and Charles streets.
Conway and Fremont streets.
Cross and Race streets.
Howard and Stockholm streets.
Foot of Marshall avenue, Ferry Bar.
Garrett avenue and Beason street.
Baltimore and Schroeder streets.
Poppleton and Saratoga streets.
Division and Robert streets.
Eutaw Place and Wilson street.
Baker and Calhoun streets.
Harlem avenue and Calhoun street.
Fulton avenue and Baker street.
Lafayette avenue and John street.
Fulton avenue and Pratt street.
Hollins and Stricker streets.
Harlem avenue and Monroe street.
Lexington and Pulaski streets.
Calverton and Frederick roads.

Fulton avenue and Saratoga street.
Hollins and Mount streets.
Hamburg and Fremont streets.
Frederick road, opposite St. Joseph's Monastery.
Frederick road and Water lane.
Maiden Choice lane and Oregon avenue.
Orleans and Forrest streets.
East and Front streets.
Aisquith street and Harford avenue.
Hoffman street and Homewood avenue.
Lanvale street and Hopkins avenue.
Gorsuch avenue and Independence street.
Montebello and Gutman avenues.
Lexington and Frederick streets.
Lexington and Sharp streets.
Calvert and Franklin streets.
Pratt and South streets.
Courtland and Mulberry streets.
Fayette street and McClellan's alley.
Mulberry and Pine streets.
Mulberry and Paca streets.
Paca and Franklin streets.
Baltimore and Pearl streets.
Pennsylvania avenue and Orchard street.
Fairmount avenue and Washington street.
Ann and Eager streets.
Oliver and Luzerne streets.
Chester street and North avenue.
Broadway and Lanvale street.
Bond street and Boundary avenue.

NEW HOUSES.

The new engine houses for Nos. 17 and 19 Engine Companies were completed and turned over to this department on October 19.

Pending the organization of the new companies which are to occupy them, these houses were placed in charge of certain of the ex-members of the department who are employed under the ordinance of the Mayor and City Council previously mentioned, and who are able to perform such duty.

These ex-members are detailed on alternate days and nights so as to equalize the duty and protect the property.

The new house for No. 10 Hook and Ladder Company has not yet been completed and turned over, but will be protected in the same manner when finished until the company is organized.

HOUSES.

The thirty houses that are owned by the city and occupied by the several companies are generally in good condition and repair. Some alterations and improvements are required for the comfort of the members and to promote the efficiency of the companies. The house at Hampden is not owned by the city, but is

rented at three hundred and sixty dollars per annum. We have had great difficulty in having the landlord keep it in decent and proper repair, as it is becoming very much dilapidated. I therefore renew my former recommendation that a lot should be purchased and a house erected thereon for the use of No. 7 Chemical Engine Company, and a Steam Engine Company which could be advantageously located there.

The alterations and repairs that have been made are as follows:

ENGINE HOUSE.

No. 1—Large coal-bin put in yard, roof repaired and painted, and boardwalk placed on same; new bath-tub, new tank in water-closet and new coal-bin in cellar.

No. 2—Bath-room enlarged, and partition in same; new store-room, 2 new water-closets, 1 iron bath-tub, 2 new wash-basins, urine bowl in stable, with all necessary plumbing and fixtures, gas, soil and ventilating pipes overhauled, wainscoting on east wall, and waste water sink inside of front door.

No. 3—New rain-spout, roof repaired and painted and plumbing overhauled sitting-room painted.

No. 4—New flush-pipe for stalls, 3 new water-closets, bath-tub relined, new doors in rear of engine-room, new sash in front doors, new boxes for harness weights, new tin roof over bath-room, hay-loft and hose-tower, and painted.

No. 5—Bath-room repaired, floor repaired, well altered, pavement in rear repaired.

No. 7—New floor in engine-room, new bath-tub and wash-stand, roof repaired and painted, and new roof on hose-tower.

No. 9—New roof on house, and board-walk on same, new granolithic pavement in front, roof of back-shed painted.

No. 10—New chimney for heater, and other chimneys repaired, new steps to hose and bell-towers, new board-walk on roof, and bell-tower enclosed.

No. 11—Roof repaired and painted.

No. 12—Inside of house and roof painted, and repaired, bunk-room papered, new tower on roof, new lower window sash.

No. 13—Roof, gutters and spouting repaired and renewed, plumbing overhauled, and well in street repaired, new granolithic pavement in front of house, new basin in bath-room, new floor in engine-room, tower repaired and painted having been struck by lightning, cornice on outside and sitting-room ceiling repaired.

No. 14—Roof repaired and painted, foundation-wall repaired, bell tower repaired, trap door in roof, door and frame on hose-tower.

No. 15—Sleeping quarters papered, roof repaired and painted, stall for third horse.

No. 16—New bowl in bath room.

HOOK AND LADDER HOUSES.

No. 1—New roof on house, drain-pipe from bath-tub, skylight in roof and steps to same.

No. 2—House repaired, and roof repaired and painted.

No. 3—Inside shutters on front windows second floor, front pavement repaired.

No. 4—New wooden floor in front part of truck-room and new cement floor on balance of room; sliding door between front and rear portions, new sash in front window, partitions on third floor, and bath-room fitted up to make quarters for Chief Engineer, lookout tower on roof, new sash and doors on third floor.

No. 5—Roof repaired and painted.

No. 6—Roof repaired and painted, new tank in bath-room, new back and side fences, new stairway to cellar, and new stall for third horse.

HOUSES IN ANNEXED DISTRICT.

No. 18 Engine—One-story frame shed in rear, new smoke pipe for heater, ventilating and sewer pipes, bedrooms papered.

No. 1 Chemical—Roof of house and shed repaired and painted.

No. 2 Chemical—Stalls widened, new roof on shed, and new spout on main building.

No. 4 Chemical—New stall for fourth horse, floor repaired and roof painted.

No. 5 Chemical—Floor repaired, and roof repaired and painted.

No. 6 Chemical—Partition in bath-room, plumbing overhauled, and front of house painted.

No. 7 Chemical—Partition in rear of engine-room to make feed-room.

REPAIRS AND ALTERATIONS REQUIRED—ENGINE-HOUSES.

No. 1—New flooring and wainscoting around stalls in stable, watch-tower enclosed for the lookout, dry-house for hose lengthened ten feet and widened two feet.

No. 2—New floor in engine-room and grade lowered, horse stalls lengthened and regraded with new floors, front doors repaired and new springs in same, large doorway for entrance and large window for light and ventilation in back stable, manure pit placed outside of house, dry-house removed to more convenient place,

south wall of stable rebuilt, belfry enclosed for watch-tower, chimney built from bunk-room and house painted inside and out.

No. 3—New floor in engine-room and room painted, new front doors and doorway widened for three-way rig, new stall, new tin roof and boardwalk on main roof, and hose tower raised.

No. 4—New front doors, new floor in part of engine-room and new wainscoting in back of same.

No. 5—New floor in engine-room, house inside and out and roof painted, hose-tower and stairway on first floor boxed in.

No. 6—House painted on inside, new cellar steps, door in hay-loft enlarged, first landing on tower enclosed for watch, bath-room made private.

No. 7—New front doors, sitting-room papered, new outside shutters, hose-tower and steps painted, clock-tower repaired and painted, as same is unsafe in its present condition.

No. 8—Tower raised, floor repaired and front painted.

No. 9—House painted inside and out, bunk-room and hallway papered, bell-tower enclosed for watch.

No. 10—House painted inside and out, roof painted, new rain-spout in rear, new flooring in stalls, new sets

of shutters on west side, new window-sash in second story front.

No. 11—New floor in engine-room, house painted inside and out, two new sliding-poles, better flow of water in drain-pipes of stalls, partition on second floor removed and room papered, ventilator in bunk-room, new bath-tub, hay-loft door enlarged, inside blinds in bunk-room, watch-tower repaired and hose-tower lengthened.

No. 12—Four new box-stalls with cement floors, new floors in engine-room, hose-tower raised, new fence in rear; house painted outside, pavement repaired, trap in soil-pipe connecting with well.

No. 13—New stall sides in engine-room, tower enclosed for watch, window-sash reset and painted, walls and ceiling of bunk-room, sitting-room and engine-room painted, floor in sitting-room repaired.

No. 14—Hose-tower raised and steps to same, new fence in front of side yard, bunk-room pointed up and painted.

No. 15—Fire-wall between hay-loft and bunk-room raised above roof, shutters covered with tin for windows in hay-loft, trap-door in roof and steps to same.

No. 16—House painted inside and out and roof painted, partition in back room.

HOOK AND LADDER HOUSES.

No. 1—New back building for spare stalls, coal shed and hay-loft, as old one is unsafe.

No. 2—Ventilating skylight in rear of bunk-room, bunk-room papered.

No. 3—Front doorway widened for three-way rig, new stall, new pavement, new floor in truck-room, house painted inside and out.

No. 4—New pavement, front painted, stalls in truck-room altered and water-closet on second floor.

No: 5—House painted inside and out, well in yard and closet pipes repaired.

No. 6—New cement floor in truck-room, new gutter on roof and painted, large door in rear of house reduced to small door and small door on side of house enlarged and kerb lowered so as to permit exit of District Engineers wagon; one stall in rear moved further front and side of other stall removed, house painted outside, new board-walk on roof.

HOUSES IN ANNEXED DISTRICT.

No. 18 Engine—Stall floors repaired, yard cemented and drained to alley; hot water pipes from furnace to bath-room; window frames and sash painted.

No. 1 Chemical—New pavement in front, bedrooms,

stairway and sitting-room papered, new floors in stalls. This house should be entirely rebuilt, as it is not suitable for an engine-house.

No. 2 Chemical—New tin roof and tower for watch on same; new flag pole.

No. 4 Chemical—Should be rebuilt, as it is in a very dilapidated condition and is detrimental to the health and efficiency of the company.

No. 5 Chemical—New roof on main building, bunk-room papered, front of house painted, new fence around yard.

No. 6 Chemical—New fence around back yard.

No. 7 Chemical—New floors in stalls and new front doors.

FIRES.

During the year 1894 the Department attended 614 fires and alarms which were received from street, instantaneous and automatic boxes, and 217 silent fires received verbally at the houses of the several companies.

Through the courtesy of the Board of Managers and officers of the Salvage Corps we are enabled to publish the losses by fire for the year, which will be found in detail in the fire record, and a tabulated statement of which will be found on another page of this report.

Though fires have been equally as numerous, these losses will be seen by comparison to be far less than other years.

It is a matter of congratulation to the public of our city that there has been no serious conflagration during the past year, and I can safely say, without exaggeration, that this has been largely due to the promptness and efficiency of the department, which statement is further borne out by the fact that comparatively few of the larger fires have extended beyond the building in which they originated, and a careful reference to the record will demonstrate a large number of fires in serious localities that were extinguished in their incipiency, many of them in from four to twenty minutes between alarm and recall.

During the year there were 13 second alarms and 6 third alarms.

On several occasions the limited facilities of the department were severely taxed by the large number of alarms in a short space of time. This was the case on February 16, when five alarms of fire, two of which were second alarms, were received in about two hours and a half, and again on July 4, when seventeen alarms and five silent fires were answered during the day, eleven of which alarms and two silent fires were received between 8.30 and 11.30 P.M., a space of three hours. It frequently occurs that three or four fires

occur inside of an hour, and the necessity is clearly shown for more companies to cover the territory and to properly protect the property involved.

NOTABLE FIRES.

January 10—Box 248.—No. 225 to 241 North street. The building was a four-story brick structure occupied by the Henry McShane Company as a brass foundry, machine and pattern shop. The fire originated on the fourth floor, used as the pattern shop, and destroyed that floor and the contents, and extended to and destroyed a large portion of the roof. By the good work of the department the balance of the building, which has a front of nearly 200 feet on North street, was saved. The service of eleven engines and four hook and ladder trucks were required. The first alarm was received at 5.50 P.M., the second at 5.55 P.M., the third at 6.10½ P.M. and the recall signal at 11.58 P.M. The cause of the fire could not be ascertained.

February 16—Box 464.—Northwest corner Boyd and Calhoun streets. A two-story wood and iron building, occupied by the congregation of the Church of the Disciples. The exterior of the church was built of corrugated iron with wooden lining, which lining burned fiercely, causing the destruction of the ceiling and sides of the interior and the roof. The first alarm was received at 6.09 P.M., second at 6.28 P.M., recall signal at 8.43 P.M. The services of five engines and two hook

and ladder trucks were required. The cause of the fire was a defective flue.

February 16—Box 633.—Foot of Webster street. Side-wheel steamboat *Ida*, belonging to the Maryland Steamboat Company. The boat was undergoing repairs and was almost completed. Owing to the inflammable nature of the wood-work of the boat and the great amount of grease about the machinery the fire spread rapidly and destroyed the entire upper works of the boat, which afterwards listed over and sunk at the wharf, owing to the large quantity of water it was necessary to pour into her. The fire-boat again proved her value in fires of this kind around the water-front. The first alarm was received at 6.17 P.M., the second at 6.39 P.M. and the recall signal at 10.40 P.M. The services of three engines, the fire-boat and two hook-and-ladder trucks were required. The cause of the fire was a lighted torch set near wood-work.

March 9—Box 283.—No. 82 Harford avenue extended. A large one-story frame building, occupied by the Baltimore City Passenger Railway Company as a stable. Owing to the distance from the nearest engine company and the scarcity of water in that locality the building was quickly consumed. The first alarm was received at 7.02¾ P.M., the second at 7.11 P.M. and the recall signal at 9.44 P.M. The services of two steam engines, two chemical engines and one hook-and-ladder truck were required. The cause of the fire was spontaneous combustion.

March 18—Box 516.—No. 1310 to 1314 Warner street. A two-story brick building, occupied as a show-case factory by Reinle Bros. The fire extended to a one-story frame building, used as a storage shed for lumber, and to some piles of lumber adjoining, belonging to John R. Hugg. As the fire had great headway before it was discovered and an alarm turned in, the buildings were destroyed, but it was cut off in the lumber yard and much destruction prevented. The first alarm was received at 3.15 A.M., the second at 3.23 A.M., the recall signal at 10.56 A.M. The services of seven engines and two hook-and-ladder trucks were required. The cause of the fire could not be ascertained.

April 9—Box 359.—No. 1007 to 1017 N. Eutaw street. A three-story brick building, 100x150 feet, occupied by Griffith, Manion & McCoy as a livery stable and undertaking establishment. The fire originated on the second floor, and quickly spread through the entire building. So rapid was its progress that a number of the employees barely escaped with their lives, and one was burned to death, and his body found after two days search by members of the department; one hundred and thirty horses were also burned to death. The building was destroyed, and some damage done to roofs of adjoining dwellings. The first alarm was received at 7.33¼ P.M., the second at 7.35½ P.M., the third at 7.38¼ P.M., and the recall signal at 7.16 P.M. on the 10th. The services of twelve engines, two chemical engines

and five hook-and-ladder trucks were required. The cause of the fire could not be ascertained.

April 14—Box 413.—Nos. 14 and 16 McClellan's alley. A three-story brick building occupied by F. Schultz & Bro. as a box factory, extending to the third and fourth floors of a four-story brick building occupied by the Sadler Manufacturing Company as a factory for making office furniture. The three-story building was destroyed, and the third and fourth floors and roof of the four-story building partially burned. This fire was in the most dangerous locality in the city, being right in the midst of a number of similar wood-working establishments, but by the quick and good work of the department it was surrounded and prevented from spreading beyond the limits already mentioned. The first alarm was received at 5.58 A.M., the second at 6.00½ A.M., the third at 6.04¾ A.M. and the recall signal at 11.55 A.M. The services of ten engines and four hook-and-ladder trucks were required. The cause of the fire was an overheated boiler in box factory, setting fire to adjacent wood-work.

July 1—Box 524.—Nos. 8 and 10 West Barre street. A two-story brick building with one-story addition, occupied by George H. Weaver as a wheelwright shop, and on the second floor as a storehouse for tobacco. Only a portion of the building was destroyed. The first alarm was received at 2.51 A.M., the second at 2.58

A.M., and the recall signal at 8.04 A.M. The services of seven engines and three hook-and-ladder trucks were required. The cause of the fire could not be ascertained.

July 7—Box 363.—Nos. 614 and 616 North Fremont street. A three-story brick building in course of construction, intended for stores on first floor and a dancing academy on the upper floors. The building was unoccupied. The fire extended to No. 612 adjoining, a store and dwelling, also unoccupied, and to No. 618, a three-story brick dwelling occupied by Mrs. Sarah McGarland. The fire had a tremendous headway before the alarm was turned in; so much so that the flames were extended clear across Fremont street upon the arrival of the first companies. The dancing academy building was completely destroyed, but the fire was cut off before doing very much damage to the adjoining buildings. The first alarm was received at 12.27 P.M., the second at 12.29 P.M., and the recall signal at 5.14 P.M. The services of six engines and two hook-and-ladder trucks were required. The cause of the fire was sparks from a tinner's fire-pot.

July 10—Box 384 in Annexed District.—The rear portions of five three-story brick dwellings, Nos. 2427, 2429, 2431, 2433 and 2435 Madison avenue, occupied by Donavin Hoffman, E. E. Geigan, Thomas S. Sharretts, B. F. Mullikin and C. S. Bucklin respectively. The back buildings were of frame with frame porches and

partitions between instead of walls, causing the flames to communicate rapidly from one to the other. These, however, were the only portions destroyed, as the fire was prevented from communicating to the front buildings. The first alarm was received at 2.31¾ P.M., the second at 2.46 P.M. and the recall signal at 8.42 P.M. The services of five steam engines, two chemical engines and two hook and ladder trucks were required. The cause of the fire was gasoline poured on and around the range in the kitchen in one of the dwellings to kill roaches.

July 18—Box 638.—Fort avenue, adjoining Fort McHenry. A one-story frame building, occupied by William T. Malster as a machine shop and foundry connected with the Columbian Iron Works. The fire originated in the pattern shop, causing the destruction of the entire building. The first alarm was received at 5.48 P.M., the second at 5.57½ P.M. and the recall at 12.40 A.M. on the 19th. The service of five engines, the fire-boat and two hook and ladder trucks were required. The fire was caused by an overheated boiler setting fire to adjoining wood-work.

August 17—Box 31.—A large brick building, No. 307 to 311 St. Paul street, being four stories on St. Paul street and five stories on Courtland street, to which it ran back, occupied by Schneider & Fuchs as a picture frame factory. The building had been previously dam-

aged by fire some years ago and rebuilt. The fire was confined to a comparatively small portion of the first, second and third floors around the elevator, and prevented from spreading to other portions of the building. The first alarm was received at 6.39 P.M., second at 6.43¼ P.M., third at 6.48 P.M. and the recall signal at 8.15 P.M. The service of nine engines and four hook and ladder trucks were required. The cause of the fire could not be definitely ascertained, but is supposed to have been the spontaneous combustion of greasy waste left in a box on first floor.

August 27—Box 123.—213 Smith's wharf. A four-story brick building, occupied by the Stonebraker Chemical Company as a laboratory and chemical works for the manufacture of proprietary medicines. The fire originated on the second floor and spread to third and fourth floors, portions of which were burned before it could be checked. The first alarm was received at 11.19 P.M., the second at 11.31 P.M. and the recall signal at 2.59 A.M. on the 28th. The services of five engines, the fire-boat and three hook and ladder trucks were required. The cause of the fire was the spontaneous combustion of chemicals.

September 5—Box 154.—No. 1325 Philpot street. A two-story brick and frame building, occupied by the Baltimore Pulverizing Company as a pulverizing mill for grinding up oyster shells to make lime, chicken feed,

etc. The building was in a dangerous locality, among lumber yards, but only a small portion of it was burned and the fire prevented from spreading to the lumber yard adjoining. The first alarm was received at 2.25¼ P.M., the second at 2.36 P.M. and the recall signal at 5.09 P.M. The services of three engines, the fire-boat and one hook-and-ladder truck were required. The cause of the fire was the friction of machinery.

September 11—Box 526.—No. 305 South Sharp street. A four-story brick building, occupied by S. M. Robinson & Son as an embroidery works. The fire was confined to the third and fourth floors, which, with their contents, were destroyed. The services of seven engines and three hook-and-ladder trucks were required. The first alarm was received at 6.29 P.M., the second at 6.33½ P.M. and the recall signal at 9.08 P.M. The cause of the fire could not be ascertained.

September 13—Box 144.—No. 802 to 808 Fawn street. Large five-story brick building occupied by the Reliable Furniture Company (C. B. Tomz, president,) as a furniture factory. The fire had great headway before being discovered, and caused the destruction of the third, fourth and fifth floors and contents. There was considerable consternation among the occupants of the adjoining dwellings, but the fire was confined to the furniture factory, and their fears allayed. The first alarm was received at 3.10 A.M., the second at 3.19 A.M., the third

at 3.40 A.M., and the recall signal at 10 A.M. The services of eleven engines, the water-tower, one chemical engine and four hook-and-ladder trucks were required. The cause of the fire was an overheated boiler setting fire to adjacent wood-work.

October 16—Box 13.—No. 219 McElderry's wharf. Occupied by H. J. Clark as a storehouse for grain. The building was four-story brick, and the fire originated on second floor and burned through to roof. The powerful stream from the bow-pipe of the fire-boat was brought to bear upon the flames and soon had them under control. Such was the force of this stream that a portion of the brick front of the building was battered in. The first alarm was received at 8.57 P.M., the second at 9 P. M., and the recall at at 11.40 P.M. The services of seven engines, the fire-boat, and four hook-and-ladder trucks were required. The cause of the fire could not be ascertained.

November 14—Box 541.—Southeast corner Fremont and Warner streets. A one story stone church, occupied by the Bennett Memorial M. E. Congregation. The fire destroyed a large portion of the interior of the church, and extended to a loft between the ceiling and the roof where it was difficult to get at. It was finally subdued and the greater part of the building was saved. The first alarm was received at 4.51 A.M., the second alarm at 5.10 A.M., and the recall signal at 9.30 A.M. The

services of six engines and one hook and ladder truck were required. The fire was caused by an overheated furnace pipe setting fire to adjacent wood-work.

December 25—Box 31.—A three-story brick building, No. 325 North street, extending through to Holliday street, occupied by Edgar Gillett as a hay store and hay-cutting establishment. A large portion of the centre of the building was consumed and much of the stock damaged by smoke and water. The falling walls of the building crushed in the roof of the adjoining building, No. 323 North street, occupied by Foster Brothers Manufacturing Company as a manufactory of spring mattresses, and pulled out about twenty-five or thirty feet of the wall of the building adjoining on the north, No. 327 North street, occupied by Edward Stinson & Company as a wheel factory. The fire was, however, confined to the building in which it originated. The first alarm was received at 10.02½ A.M., the second alarm at 12.12 A.M. and the third alarm at 12.29 A.M., and the recall signal at 6.50 P.M. The services of nine engines and five hook and ladder trucks were required. The cause of the fire could not be ascertained.

Fire Alarm Boxes Where Second, Third and General Alarms Were Sent in from in 1894.

Box.	Location.	Date.	Second.	Third.	General
248	Bath and Holliday streets	Janurry 10	.....	Third	.....
464	Southwestern Police Station, Calhoun st	February 16	Second	.....	.....
633	Clement and Webster streets	February 16	Second	.....	.....
283	Harford road, near car stables	March 9	Second	.....	.....
516	Ostend and Warner streets	March 18	Second	.....	.....
359	Eutaw and Preston streets	April 9	.....	Third	.....
413	Salvage Corps House, Liberty street	April 14	.....	Third	.....
524	Charles and Barre streets	July 1	Second	.....	.....
363	George street and Fremont avenue	July 7	Second	.....	.....
384	Madison avenue extended	July 10	Second	.....	.....
638	Fort avenue and Dry Dock	July 18	Second	.....	.....
31	Calvert and Pleasant streets	August 17	.....	Third	.....
123	Pratt and Gay streets	August 27	Second	.....	.....
154	Caroline and Thames streets	September 5	Second	.....	.....
526	Hanover and Pratt streets	September 11	Second	.....	.....
144	President and Fawn streets	September 13	.....	Third	.....
13	Pratt-street bridge	October 16	Second	.....	.....
541	Eutaw and Henrietta streets	November 14	Second	.....	.....
31	Calvert and Pleasant streets	December 25	.....	Third	.....

TABLE

Exhibiting the Number of Fires for the Hours of the Day during 1894.

A. M. BETWEEN		*P. M.* BETWEEN	
12 to 1 o'clock	31	12 to 1 o'clock	34
1 to 2 o'clock	24	1 to 2 o'clock	26
2 to 3 o'clock	20	2 to 3 o'clock	29
3 to 4 o'clock	20	3 to 4 o'clock	39
4 to 5 o'clock	15	4 to 5 o'clock	41
5 to 6 o'clock	12	5 to 6 o'clock	44
6 to 7 o'clock	20	6 to 7 o'clock	45
7 to 8 o'clock	35	7 to 8 o'clock	71
8 to 9 o'clock	30	8 to 9 o'clock	56
9 to 10 o'clock	34	9 to 10 o'clock	64
10 to 11 o'clock	31	10 to 11 o'clock	46
11 to 12 o'clock	35	11 to 12 o'clock	29

TABLE

Showing the Number of Fires on each Day of the Week during 1894.

Day.	Number of Fires.
Sunday	130
Monday	122
Tuesday	114
Wednesday	127
Thursday	99
Friday	111
Saturday	128
	831

TABLE

Showing the different causes of Fires and Alarms during the year 1894.

Accidental alarm	2
Back draft from chimney	1
Balloon on roof	5
Blanket falling on stove	1
Box pulled for preceding fire	2
Burning chimney	33
Burning rubbish on hearth	1
Burning sulphur	1
Carelessness	1
Children playing with fire	2
Children playing with matches	22
Child stepping on match	2
Chinese Lanterns	1
Clothes blowing against stove	1
Defective flue	36
Defective gas pipe	1
Defective hot-air pipe	1
Disconnected gas pipe	2
Electric light wire	25
Explosion of acid bottle	1
Explosion of barrel of gasoline	1
Explosion of can of alcohol	1
Explosion of can of gasoline	7

Explosion of chemicals	1
Explosion of coal oil lamp	30
Explosion of gas	1
Explosion of gasoline or coal oil stove	80
Explosion of gas meter	1
Explosion of steam pipe	1
Falling lamp	5
Falling gas bracket	1
Falling wall	1
False alarms	19
Fireworks	20
Friction of Machinery	6
Gas jet igniting curtain	10
Gas jet igniting woodwork	1
Glue boiling over	1
Grease boiling over	3
Heat from ash pan	1
Heat from lamp	1
Hot ashes against woodwork	2
Hot ashes in wooden box	2
Hot castings	4
Hot coals from oven	1
Incendiary	34
Kindling fire with benzine	1
Lard boiling over	1
Leaking gas taking fire	4
Lighted candle against boards	2
Lighted candle dropped on bed	1
Lighted cigarette thrown on roof	1

Lighted cigar thrown in straw	2
Lighted cigar thrown in wooden box	2
Lighted lamp thrown at woman	1
Lighted match thrown in gasoline	5
Lighted match thrown in hay	3
Lighted match thrown on bureau	1
Lighted match thrown on curtain	2
Lighted match thrown on floor	1
Lighted match thrown on roof	1
Light from windows	1
Light near woodwork	3
Lightning	3
Mice or rats nibbling matches	4
Oil upset on stove	2
Overheated boiler	9
Overheated coffee roaster	1
Overheated forge	2
Overheated kiln	1
Overheated oven	4
Overheated stack or cupola	3
Overheated stove or furnace	35
Overheated stove-pipe	14
Pan of sugar boiling over	1
Rekindling of previous fires	1
Rosin boiling over	1
Set on fire by boys	7
Smoke from oven	1
Smoke from windows	10
Smoking in loft	1

Smoking out mosquitoes	1
Smoking pipe in bed	1
Sparks from bonfire	1
Sparks from chimney or stack	28
Sparks from electric car	1
Sparks from grate	1
Sparks from hammer	1
Sparks from kiln	1
Sparks from locomotive	5
Sparks from machinery	3
Sparks from oven	1
Sparks from pipe	1
Sparks from previous fire	1
Sparks from smokehouse	3
Sparks from stove or furnace	4
Sparks from stove-pipe	2
Spontaneous combustion	25
Tar boiling over	1
Thawing water pipes	2
Tinners fire pot	5
Trolley wire	1
Upsetting candle	2
Upsetting coal oil lamps	12
Upsetting gasoline stove	1
Unknown	214
Vapor of gasoline taking fire	5
	831

Summary of Fires for the Year 1894.

Month.	Dist. 1.	Dist. 2.	Dist. 3.	Dist. 4.	Dist. 5.	Dist. 6.	Total Box.	Silent.	City.	Annex	Total.
	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.	No.
January	16	13	9	.....	5	6	49	20	63	6	69
February	10	13	7	1	5	9	45	12	51	6	57
March	12	9	9	3	8	8	49	25	66	8	74
April	15	9	9	7	10	5	55	13	61	7	68
May	12	12	6	5	9	4	48	17	59	6	65
June	8	7	7	4	7	7	40	17	50	7	57
July	21	12	9	12	9	15	78	24	92	10	102
August	10	7	10	7	6	4	44	17	49	12	61
September	6	11	10	4	9	12	52	17	61	8	69
October	16	6	8	2	7	10	49	17	58	8	66
November	12	11	15	6	7	11	62	19	66	15	81
December	7	2	12	2	11	9	43	19	50	12	62
	145	112	111	53	93	100	614	217	726	105	831

Table Showing Loss by Fire during the Year 1894.

Month.	City.		Annex.		Total, City.	Total, Annex	Total Loss.
	Box Alarms.	Silent Fires.	Box Alarms	Silent Fires.			
January	$ 34,511 43	$ 811 71	$ 2,801 85	$ 89 25	$ 35,323 14	$ 2,891 10	$ 38,214 24
February	60,302 79	189 90	658 19	58 05	60,492 69	716 24	61,208 93
March	23,575 92	987 71	854 09	20 00	24,563 63	874 09	25,437 72
April	165,603 46	603 93	10,010 60	.....	166,207 39	10,010 60	176,217 99
May	11,498 69	458 60	670 54	.....	11,957 29	670 54	12,627 83
June	3,795 48	1,639 97	500 00	45 00	5,435 45	545 00	5,980 45
July	54,482 03	14,100 97	1,977 54	246 00	68,583 00	2,223 54	70,806 54
August	28,458 06	277 85	6,143 16	200 00	28,735 91	6,343 16	35,079 07
September	43,776 23	475 01	1,157 22	.....	44,251 24	1,157 22	45,408 46
October	16,249 85	335 50	319 69	25 00	16,585 35	344 69	16,930 04
November	26,962 73	582 55	2,539 32	40 00	27,545 28	2,579 32	30,124 60
December	20,446 31	950 46	2,710 65	45 00	21,396 77	2,755 65	24,152 42
Total	$489,662 98	$21,414 16	$30,342 85	$768 30	$511,077 14	$31,111 15	$542,188 29

UNDERGROUND WIRES.

It is also a matter of congratulation that the necessary steps have been taken and the work is in progress for placing the wires of the Fire-Alarm Telegraph underground. This improvement, when finished, will greatly lessen the danger to which we have been hitherto exposed, and prevent a recurrence of the unfortunate accident of the burning of the Fire Alarm Telegraph office at the City Hall on July 19 last.

OVERHEAD WIRES.

I again call attention to the absolute necessity of placing all the overhead wires under ground, as their present condition is a great interference with the working of the department, and a menace to the lives of the members. At almost every large fire the ladder service is delayed, and sometimes even prevented by the network of overhead wire, and the ladders, trucks, &c., are so charged with electricity as to make it impossible and dangerous to touch them. This condition of affairs should be remedied, and the only proper remedy is to place all telegraph, telephone, electric light and trolley wires under ground. Pending the passing of the necessary legislation on the subject, and in order to give immediate relief as far as possible to the members of the department when working at fires, I recommend that an ordinance be passed to compel electric light and railroad companies using trolley system to have men always ready to respond to fires wherever the

wires hinder the department in extinguishing fires, so as to turn off the electric current when required.

The fire-pump on the Police-boat *Lannan* has rendered valuable service at a number of fires around the water front.

Experience has demonstrated that another water-tower and fire-boat are absolutely necessary to the proper working of the department, for should the ones in use be disabled, which is liable to occur at any time, we have nothing to take their places, and should it become necessary to use both, which has occurred, they would prove a valuable addition to the service.

FIRE-PLUGS AND WATER MAINS.

While some localities have been bettered in the matter of mains and plugs, as will appear by the report of the Chief Engineer of the Water Department, yet there is still a scarcity of water in many localities, which is a great source of trouble to the department.

I call particular attention to the locality of Pratt street, from Green to Poppleton streets, which is closely built up with factories, many of which are wood-working establishments. The mains are totally inadequate to furnish enough water to supply our engines, and the plugs are two few and far apart to be of much service.

The supply at Light and Winder streets is also very small; as the neighborhood is being rapidly built up with factories, something should be done to increase it.

Additional and larger mains and plugs are absolutely required in many localities so that the department may properly and satisfactorily perform its functions.

The number of plugs put up during the past year was forty-five, making the total number now in service 1,519, a number far inadequate to our area and necessities, as will be seen by a reference to the comparative table in the beginning of this report.

I revert with pride to the excellent discipline and general condition of the department at the present time. The full paid system has now been in use nearly two years, and has been found to produce excellent results, and the improvement on every hand is manifest to any one who will take the trouble to analyze the working of the department now and compare it with what it was under the old call system.

To the officials, officers and members of the department I return my thanks for their co-operation and assistance in carrying out these improvements and bringing the department to its present state of efficiency.

I desire also to return my thanks to the members of

the Police Department for valuable assistance rendered on numerous occasions during the past year, and to the members of the Salvage Corps for assistance and services rendered and for courtesies extended.

Respectfully submitted,

JOHN J. LEDDEN,
Chief Engineer.

LOCATION OF COMPANIES

—AND—

ROSTER.

ENGINE COMPANY No. 1.

Located on Paca Street, North of Fayette Street.

Name.	Age.	Time of Service.	Position.	Residence.	Former Occupation.
J. Thomas Dunn.....	33	5 years.....	Captain...	621 W. German street.	Iron-moulder
William F. Morrow.....	44	17 years...	Lieutenant	1014 Druid Hill ave..	Moulder
Charles E. Freburger...	46	19 " ...	Enginem'n	111 Pearl street.....	Machinist
John W. Eckhardt.....	31	4 yrs. 4mo.	Asst. Eng'n	650 W. Barre street...	Machinist
Lewis J. Fresch.....	51	23 years...	Hostler ...	3 Pearl street.....	Driver
Edward R. Addison....	47	20 " ...	Pipeman..	849 W. Lexington st..	Machinist
Albert Oelmann.....	29	6½ " ...	" ..	638 W. Saratoga street.	Blacksmith
Frank A. Hanssen.....	26	2 yrs. 15ds.	" ..	654 W. German street.	Blacksmith
John J. McCarthy.....	24	1yr. 5mo..	" ..	223 W. Poppleton st..	Horseshoer
Frederick Viehmeyer....	34	1 yr. 3 mo.	" ..	660 W. Mulberry st...	Driver
George W. Bentz.....	54	25 years...	" ..	119 N. Paca street....	Baker

ENGINE COMPANY No. 2.

Located on Barre Street, West of Sharp Street.

Name.	Age.	Time of Service.	Position.	Residence.	Former Occupation.
William R. Ward	50	22 years.	Captain.	124 S. Calhoun street.	Carpenter.
George C. Young.	42	3 yrs. 9 mo.	Lieutenant	3 E. Henrietta street.	Tinner.
Thomas S. Atkinson	44	13 yrs. 3 mo	Engineman	1839 W. Lombard st.	Machinist.
Daniel H. Weber	34	5 yrs. 3 mo.	Asst. Eng'n	921 S. Hanover street.	"
Frank Hines.	30	4 yrs. 9 mo.	Hostler	936 S. Sharp street.	Driver.
William Eckert	36	7 yrs. 7 mo.	Pipeman	708 S. Hanover st.	Brushmaker.
George H. Hewitt	29	3 yrs. 6 mo.	"	114 W. Barre street.	"
William R. Birckhead	30	3 years.	"	215 " "	Cigarmaker.
Charles E. Rice	25	1 yr. 7 mo.	"	629 " "	Packer.
John Moeller	27	1 yr. 1 mo.	"	1029 Race street.	"
William H. Bell	38	6 months.	"	1033 Cross street.	Blacksmith.
Edward Tauber	28	4 years.	"	608 S. Greene street.	Driver.

ENGINE COMPANY No. 3.

Located on East Lombard Street, near High Street.

Name.	Age.	Time of Service.	Position.	Residence.	Former Occupation.
Benjamin Price.....	50	15 yrs. 8 mo.	Captain....	1420 E. Lanvale street	Coffee Roaster.
Levin H. Burkhardt....	27	4 "	Lieutenant	1252 Barclay street...	Carpenter.
Patrick F. Moriarty. ...	44	20 "	Enginem'n	910 E. Lombard street	Machinist.
Thomas G. Huth.	27	4 " 8 mo.	Asst. Eng'n	106 S. Washington st..	Machinist.
John F. Peerce.....	51	19 "	Hostler...	407 N. Front street...	Driver.
George L. Schlimm.....	34	6 " 8 mo.	Pipeman..	246 S. Exeter.....	Boxmaker.
Herman Fumbaugh....	36	6 " 8 mo.	" ..	1408 Gough street....	Driver.
Robert H. Dougherty...	38	6 "	" ..	237 S. Bond street....	Undertaker.
August Schlimm	28	4 " 7 mo.	" ..	1010 Eastern avenue..	Driver.
James T. Pearl.....	38	8 "	" ..	38 S. High street.....	Tobacco Worker
John T. Seabreeze	49	1 " 10 mo.	" ..	1202 Gough street....	Painter.

ENGINE COMPANY No. 4.

Located on Lexington Street, Between North and Calvert Streets.

Name.	Age.	Time of Service.	Position.	Residence.	Former Occupation.
Herman F. Bichy.....	36	4 yrs. 9 mo.	Captain...	624 Saratoga street...	Clerk.
Maurice C. Bollman....	29	4 years....	Lieutenant	715 S. Fremont street.	Painter.
William J. Dohler.....	30	1 yr. 6 mo.	Enginem'n	1011 E. Pratt street ..	Machinist.
Herbert W. Peerce.....	28	3 yrs. 6 mo.	Asst. Eng'n	23 S. Broadway	"
William H Ryan	29	1 yr. 1 mo.	Hostler....	842 Hillen street.....	Driver.
Constant. Siebert.....	43	13 years...	Pipeman..	1138 Laurel street....	"
William H. Cullen.....	37	4 "	" ..	807 Hillen street.....	"
George E. Croucher	32	7 "	" ..	913 Trinity street.....	Canmaker.
John M. Fredericks.....	32	7 "	" ..	1717 Harford avenue.	Shoemaker.
Joseph Ott.....	31	8 months..	" ..	1240 Jackson street...	Mill Worker.
Frank C. H. Berger.....	38	9 years....	" ..	816 Ensor street.....	Silversmith.
Cooper Elliott.....	42	7 "	" ..	765 St. Peter street...	Driver.

ENGINE COMPANY No. 5.

Located on Ann Street, near Gough Street.

Name.	Age.	Time of Service.	Position.	Residence.	Former Occupation.
Andrew W. German	45	23 years...	Captain ...	239 S. Ann street.....	Painter.
Charles Rosenthal.....	37	4 " ...	Lieutenant	12 S. Ann street.....	Carpenter.
Frederick L. Nelson....	47	20 " ...	Enginem'n	404 S. Ann street.....	Machinist.
John N. Bletzer	31	6 " ...	Asst. Eng'n	722 S. Bond street....	Machinist.
Henry Murphy	43	15 " ...	Hostler ...	123 N. Patterson P'k av	Driver.
Henry R. Seippel	45	20 " ...	Pipeman ..	1739 E. Lombard st ..	Barber.
William B. Baker.....	37	13 " ...	" ..	208 S. Ann street.....	Brass finisher.
John H. Reitz.....	32	7 " ...	" ..	2013 E. Lombard st ..	Merchant.
Anthony Schoepplein...	39	3 yrs. 6 mo	" ..	209 S. Regester street .	Cooper.
John F. Bilson	31	2 yrs. 6 mo.	" ..	106 N. Ann street	Painter.
William Hastler.....	31	1 yr. 9 mo..	" ..	508 S. Wolfe street...	Driver.

ENGINE COMPANY No. 6.

Located Corner of Gay and Ensor Streets.

Name.	Age.	Time of Service.	Position.	Residence.	Former Occupation.
Richard V. Pittinger	46	15 years	Captain	1632 Madison street	Carpenter.
Charles Betz	41	10 "	Lieutenant	426 Colvin street	Shoemaker.
Matthew Mulligan	56	24 "	Enginem'n	1027 Valley street	Machinist.
Thomas F. Sexton	40	6 yrs. 6 mo.	Asst.Eng'n.	936 Monument street.	"
Philip L. Brady	31	8 years	Hostler	709 N. Central avenue.	Driver.
George Sykes	34	2 yrs. 7 mo.	Pipeman	1115 E. Monument st.	Collarmaker.
Frederick W. Harman	30	2 yrs. 4 mo.	"	405 N. Spring street	Brass Finisher.
John F. Maguire	26	1 yr. 9 mo.	"	1416 McElderry street.	Shipping Clerk.
John A. McKew	27	1 yr. 7 mo.	"	1709 Madison street	Machinist.
Isaac Cuddy	25	1 yr. 1 mo.	"	808 Central avenue	Carpenter.
Harry Heinze	28	1 yr. 1 mo.	"	416 Ensor street	Clerk.
Charles C. Stone	24	1 yr. 8 m. 9d.	"	30 Albemarle street	Driver.

ENGINE COMPANY No. 7.

Eutaw Street and Druid Hill Avenue.

Name.	Age.	Time of Service.	Position.	Residence.	Former Occupation.
John B. Bortell.....	29	6 yrs. 3 mo.	Captain....	746 George street.....	Ship Rigger.
Lawrence Pistel.....	44	20 years...	Lieutenant	1544 Argyle avenue...	Cigarmaker.
Samuel W. Stansbury...	44	20 "	Enginem'n	1925 W. Baltimore st.	Machinist.
Frank R. Nehren.....	30	3 yrs. 8 mo.	Asst.Eng'n.	912 Argyle avenue....	Machinist.
Harman Schiminger....	40	4 yrs. 9 mo.	Hostler. ..	230 Rock street.....	Hostler.
Charles A. Soistman....	41	4 yrs. 9 mo.	Pipeman ..	610 Bradley street....	Drummaker.
George Schneider.....	26	2 yrs, 3 mo.	" ..	907 Madison avenue..	Gas Fitter.
Edward Meinetzberger..	35	1 yr. 11 mo.	" ..	549 Lafayette avenue.	Gold Beater.
John Weinkamp.....	28	2 yrs. 9 mo.	" ..	655 W. Mulberry st...	Cigarmaker.
Fred'k W. Johnston, Jr..	25	8 months..	" ..	1045 W. Saratoga st...	Carpenter.
Andrew J. Ruth.....	24	5 " ..	" ..	230 S. Wolfe street....	Stationary Eng'r

ENGINE COMPANY No. 8.

Located on Mulberry Street, Between Schroeder Street and Arlington Avenue.

Name.	Age.	Time of Service.	Position.	Residence.	Former Occupation.
Andrew J. Walter	57	23 years	Captain	1020 W. Saratoga st	Cigarmaker.
Frederick Johnston	51	19 "	Lieutenant	1132 W. "	Carpenter.
John A. Bannan	52	17 "	Enginem'n	1117 W. Riggs avenue.	Machinist.
William F. Awalt	34	4½ "	Asst.Eng'n.	312 N. Poppleton st	"
William J. Stewart	44	19 "	Hostler	424 N. Arlington ave.	Driver.
Greenbery Chapman	62	23 "	Pipeman	954 W. Franklin st	Shoemaker.
Charles Airey	43	10 "	"	319 N. Schroeder st	Cigarmaker.
Jacob F. Rupp	37	6½ "	"	818 S. Gilmor street	Plasterer.
James McGlennan	33	5½ "	"	236 N. Schroeder st	Moulder.
John Krauss	34	5 "	"	1321 N. Carey street	Tinner.
John J. Murphy	40	3½ "	"	207 N. Schroeder st	Moulder.

ENGINE COMPANY No. 9.

Located on Madison Street, east of Broadway.

Name.	Age.	Time of Service.	Position.	Residence.	Former Occupation.
David H. Macaulay.....	68	34 years...	Captain....	1211 N. Eden street ..	Painter.
Solomon Uhlfelder.....	51	23 " ..	Lieutenant	1250 N. Gay street ...	Huckster.
Daniel R. Rogers.....	48	23 " ..	Enginem'n	1706 E. Madison street	Machinist.
William H. Stanton.....	46	17 " ..	Asst. Eng'n	5 N. Broadway.....	Machinist.
William B. Baker.....	37	14 " ..	Hostler ...	727 N. Washington st.	Driver.
James McDevitt.....	52	23 " ..	Pipeman ..	1705 E. Madison street	Harnessmaker.
William H. Cuddy.....	37	6½ " ..	" ..	1629 E. Madison street	Driver.
Elias J. Kipp.....	41	5 " ..	" ..	930 N. Washington st.	Carpenter.
Clinton Baker.....	34	22 months.	" ..	808 N. Wolfe street...	Laborer.
Charles C. Neilson.....	41	16 years...	" ..	1813 E. Madison.....	Bricklayer.
John Amend.....	34	3¼ " ...	" ..	2209 Jefferson street..	Boxmaker.

ENGINE COMPANY No. 10.

Located on Columbia Avenue, near Poppleton Street.

Name.	Age.	Time of Service.	Position.	Residence.	Former Occupation.
Henry Stagge	29	3 yrs. 6 mo.	Captain.	1117 Bowen street	Moulder.
Charles Romoser	33	5 yrs. 5 mo.	Lieutenant	507 S. Howard street	Plumber.
John W. Walsh	45	19 years.	Engineman	1115 W. Baltimore st.	Machinist.
James Nugent	38	11 "	Asst. Eng'n	417 S. Poppleton st.	"
Hunter S. Shettle	42	2 yrs. 7 mo.	Hostler	2143 Wilkens ave	Hostler.
Justice G. Keilholtz	49	21 years.	Pipeman	896 W. Lombard st.	Mantle Setter.
Henry Zachman	41	6 yrs. 6 mo.	"	1256 James street	Cigarmaker.
John Eigenbrodt	33	4 years.	"	876 Columbia avenue.	Woodcarver.
Samuel W. Marker	14	14 "	"	208 N. Arlington ave.	Carpenter.
Henry Ludwig	44	3 "	"	865 Ramsay street	Boxmaker.
John F. Pons	36	2 yrs. 1 mo.	"	1120 Bowen street	Carpenter.

ENGINE COMPANY No. 11.

Located on Eastern Avenue, corner of Patterson Park Avenue.

Name.	Age.	Time of Service.	Position.	Residence.	Former Occupation.
Michal A. Lind	33	8 years	Captain	505 S. Pat's'n Pk. ave.	Coachpainter
Thomas Flaherty	34	3 "	Lieutenant	2103 Bank street	Pilot
John Calder	48	24 "	Enginem'n	422 S. Pat's'n Pk. ave.	Machinist
John Lindemann	47	6 "	Asst. Eng'n	2036 Bank street	Machinist
Patrick Birthistle	27	2 "	Hostler	1029 Granby street	Driver
John W. Barton	30	3 "	Pipeman	239 S. Castle street	Moulder.
Benjamin V. Beyer	30	5 "	"	503 S. Pat's'n Pk. ave.	Laborer
Charles E. Dewitt	44	10 "	"	2010 Gough street	Carpenter
Albert H. Gier	40	16 "	"	126 S. Chapel street	Painter
Joshua H. Miller	38	9 "	"	912 Curley street	Cigarmaker
George Shipley	37	5 "	"	2242 Bank street	Gilder

ENGINE COMPANY No. 12.

Located on the Southeast Corner of Riverside and Fort Avenues.

Name.	Age.	Time of Service.	Position.	Residence.	Former Occupation.
George W. Smith.....	37	4 yrs. 8 mo.	Captain...	414 Wehage street...	Plumber.
Edward C. Klessel.....	42	13 years...	Lieutenant	1442 Riverside ave....	Gilder.
Michael Lycett.....	48	22 " ...	Enginem'n	1417 Battery avenue..	Machinist.
William Welsh.....	31	1 yr. 7 mo.	Asst. Eng'n	20 East Heath street..	Machinist.
Joseph W. Moon.....	44	15 years...	Hostler...	1509 Battery avenue..	Hostler.
James Catterton.....	45	8 " ...	Pipeman..	1460 William street..	Painter.
Thomas Voyce.....	34	5 yrs. 9 mo.	" ..	404 East Fort avenue.	Boilermaker.
Peter McGonigle.....	34	4 years....	" ..	1265 Riverside avenue	Cotton inspect'r.
Gerhart Tabeling.....	31	2 yrs. 7 mo.	" ..	1442 " "	Harnessmaker.
Casper Kraft	34	2 years....	" ..	1103 " "	Shoemaker.
Edward Norton.....	30	1 yr. 9 mo.	" ..	1210 Hanover street..	Hostler.

ENGINE COMPANY No. 13.

Located at the intersection of Fremont and Myrtle Avenues.

Name.	Age.	Time of Service.	Position.	Residence.	Former Occupation.
John Hoffman	47	18 years	Captain	637 Pitcher street	Canmaker.
Thomas J. Strahler	35	15 "	Lieutenant	1320 Ensor street	Tinner.
John H. Deal	52	22 "	Enginem'n	1519 Myrtle avenue	Machinist.
Edward G. Riley	37	2 yrs. 4 mo.	Asst. Eng'n	637 Mosher street	Machinist.
Thomas H. Wright	40	10 years	Hostler	1608 Mulberry street.	Driver.
Philip Bowen	43	17 "	Pipeman	1112 Pennsylvania av.	Cigarmaker.
Wilbur Pearce	37	10 "	"	1109 Winchester street	Moulder.
James Nolan	24	2 yrs. 7 mo.	"	230 Fremont avenue	Collarmaker.
Joseph Hummel	24	6 months	"	1621 W. Baltimore st.	Painter.
John F. Curry	26	5 mo. 16 da.	"	2320 Canton avenue	Stove Finisher.
John W. Cook	33	1 yr. 9 mo.	"	637 Mosher street	Baker.

ENGINE COMPANY No. 14.

Located on Hollins Street, near Monroe Street.

Name.	Age.	Time of Service.	Position.	Residence.	Former Occupation.
William H. Dunn	44	11 years	Captain	1839 W. Baltimore st.	Hostler.
George A. Wright	38	4 "	Lieutenant	1913 W. Lombard st.	Painter.
John Gaffney	39	18 "	Enginem'n	204 S. Payson street	Machinist.
Cornelius P. Kuhan	48	2 "	Asst. Eng'n	216 S. Calhoun street	"
James T. Braden	26	1 yr. 2 mo.	Hostler	1933 Hollins street	Driver.
C. Allen Orem	44	12 years	Pipeman	7 S. Stricker street	Painter.
J. Oscar Healey	60	34 "	"	1710 W. Fayette st.	Carpenter.
Charles H. Baker	42	15 "	"	1928 Hollins street	Scalemaker.
George E. Hibline	44	2 yr. 5 mo.	"	310 S. Bruce street	Painter.
Leonard Jessop	39	" "	"	1916 W. Lombard st.	Plasterer.
Hugh P. Fox	33	" "	"	1907 Frederick ave.	Laborer.

ENGINE COMPANY No. 15.

Lombard Street, between Howard and Eutaw Streets.

Name.	Age.	Time of Service.	Position.	Residence.	Former Occupation.
John Todd	30	3 yrs. 6 mo	Captain	834 W. Lombard street	Laborer.
Edward F. Kelly	36	4 " 4 mo	Lieutenant	213 N. Pine street	Street-paver.
Louis Harrer	37	2 "	Lieutenant	227 S. Caroline street.	Pile-driver.
John Conway	39	12 "	Enginem'n	1630 McHenry street.	Machinist.
John J. Cahill	30	2 "	Asst. Eng'n	900 McHenry street	Machinist.
George C. Lloyd	25	1 " 9 mo	Asst. Eng'n	733 McHenry street	Machinist.
Mark Hill	42	5 "	Hostler	516 W. Fayette street	Driver.
George H. Rush	27	2 " 6 mo	Pipeman	38 S. Eutaw street	Confectioner.
Charles L. Schulte	36	2 "	"	743 W Cross street	Butcher.
Andrew J. Connelly	39	15 "	"	411 N. Pine street	Driver.
Michael E. Lynch	34	1 " 7 mo	"	712 S. Dallas street	Laborer.
George Gerhard	29	1 " 7 mo	"	1532 N. Gay street	Musical Ins.mk'r
Samuel E. McElwee	33	1 " 2 mo	"	925 S. Sharp street	Can-capper.
August Lang	27	1 " 2 mo	"	604 Scott street	Cigarmaker.
Jacob W. Dohler	31	1 "	"	811 E. Fayette street.	Machinist.
John Kahl	25	11 months.	"	909 Hanover street	Driver.
George J. Belzner	23	6 "	"	2008 Eastern avenue	Packer.
Frank Kraft	24	6 "	"	1125 S. Charles street.	Painter.
William E. Stewart	25	1 yr. 1 mo	"	1068½ Granby street	Iron Moulder.
Thomas B. Strahan	50	14 years	"	1209 Jackson street	Currier.

ENGINE COMPANY No. 16.

Location—Commercial Wharf.

Name.	Age.	Time of Service.	Position.	Residence.	Former Occupation.
Richard A. Lindsay	51	23 years	Captain	101 S. Chester street	Paper-hanger.
John Prenger	42	4 yr. 8 mo.	Lieutenant	1411 Hull street	Machinist.
John H. Brown	47	3 yr. 6 mo.	Pilot	1716 Fairmount ave.	Steamboat pilot.
William C. Stallings	46	3 yr. 1 mo.	"	309 S. Ann street	" "
Thomas H. Meushaw	38	9 years.	Enginem'n	6 N. Ann street	Machinist.
William T. Hubbard	36	1 year.	Asst. Eng'n	31 S. Bond street	Marine engin'r.
John H. Stutt	51	3 yr. 6 mo.	" "	2212 Gough street	Machinist.
James Hayden	46	" "	Stoker	35 W. West street	Clerk.
James H. Hoey	47	" "	"	218 S. Castle street	Stoker.
George Horley	38	" "	"	2427 Block street	"
George H. Little	51	8 years.	Pipeman	132 N. Ann street	Painter.
Joseph Zeidler	42	1 yr. 11 mo.	"	2009 Gough street	Marine engin'r.

ENGINE COMPANY No. 18.

Twenty-first Street, between Maryland Avenue and Oak Street.

Name.	Age.	Time of Service.	Position.	Residence.	Former Occupation.
Frederick Branan.....	46	15 years...	Captain...	324 W. Twenty-first st.	Harnessmaker.
John F. Kelly.....	28	2 yrs. 9 mo.	Lieutenant	412 E. Twenty-first st.	Machinist.
Thomas S. Brown.....	35	8 years....	Enginem'n	2406 Maryland ave...	Machinist.
John I. Cranford.....	25	1 yr. 9 mo.	Asst. Eng'n	116 W. Twenty-first st.	Machinist.
John W. Potts.....	37	6 years....	Hostler...	3 Cottage avenue.....	Driver.
Robert H. Blatchley....	24	1 yr. 9 mo.	Pipeman..	330 W. Twenty-first st.	Coachpainter.
Charles E. Brown.....	26	1 yr. 2 mo.	" ..	314 W. Twenty-first st.	Laborer.
John F. MacKenzie.....	47	5 years....	" ..	1256 Barclay street...	Cardriver.
Andrew J. McCormick..	35	4 "	" ..	430 Turner place.....	Cardriver.
Henry A. Moeller.....	28	1 yr. 9 mo.	" ..	649 W. Lee street.....	Gripman.
William H. Quincy.....	39	1 " "	" ..	2426 Crystal avenue..	Stonecutter.
Samuel A. Seymour.....	34	9 years....	" ..	503 N. Paca street....	Canmaker.

HOOK AND LADDER COMPANY No. 1.

Located on Harrison Street, near Fayette Street.

Name.	Age.	Time of Service.	Position.	Residence.	Former Occupation.
E. Louis Shipley.....	34	3 yrs. 6 mo.	Captain....	1407 Pennsylvania ave.	Shoemaker.
August Emrich	32	10 years...	Lieutenant	113 N. Exeter street..	Coal Dealer
Thomas Kerr.....	31	5½ " ...	Tillerman..	407 N. High street....	Clerk.
George W. Haskell.....	49	18 " ...	Asst. Till'n	912 E. Lombard street.	Carpenter.
John T. Mulligan	34	11 " ...	Hostler....	1209 E. Lexington st..	Driver.
Martin Kirby.....	49	13 " ...	Ladderm'n	227 N. Exeter street..	Trunkmaker.
Z. Taylor Seebreeze.....	46	4½ " ...	"	255 N. Caroline street.	Driver.
Robert B. Edwards.....	42	4 " ...	"	30 Albermarle street..	Stereotyper.
George F. Thompson...	32	2 yrs. 8 mo.	"	1009 E. Eager street..	Strawhatmaker.
Joseph H. Daly.....	42	14 years...	"	115 N. Exeter street..	Stonecutter.
Andrew J. Orr.....	24	1 yr. 4 mo.	"	1429 Block street.....	Stoker.

HOOK AND LADDER COMPANY No. 2.

Located on Paca Street, Near Fayette Street.

Name.	Age.	Time of Service.	Position.	Residence.	Former Occupation.
Thomas Montgomery	53	24 years	Captain	121 N. Paca street	Driver.
John W. Kelly	33	8 "	Lieutenant	1107 Penna. avenue	"
John W. Blake	58	24 "	Tillerman	521 W. Lexington st	Engineer.
Emil Heise	35	4 yr. 9 mo.	Asst. Till'n	210 N. Fremont st	Furniture pck'r.
Joseph Lavender	47	18 years	Hostler	771 W. Mulberry st	Driver.
John F. Schafer	57	6 yr. 7 mo.	Ladderm'n	719 W. Baltimore st	China packer.
Alonzo Travers	28	2 yr. 8 mo.	"	1602 W. Franklin st	Pilot.
William H. Stapf	27	2 yr. 5 mo.	"	201 W. Saratoga st	Driver.
Pau L. Linde	28	3 yr. 10 mo.	"	537 W. Dolphin st	Canmaker.
William C. D. Knight	25	5 months	"	26 E. Montgomery st.	Driver.
James A. Campbell	30	11 months.	"	1114 Penna. avenue :	Stonecutter.

HOOK AND LADDER COMPANY No. 3.

Located on South Ann Street, near Gough Street.

Name.	Age.	Time of Service.	Position.	Residence.	Former Occupation.
George W. Foxwell.....	47	24 years ..	Captain ...	1911 Bank street.....	Shipwright.
Peter Nelson.....	36	5 " ..	Lieutenant	14 S. Ann street.....	Seaman.
John N. Downs	46	24 " ..	Tillerman..	2121 Orlean street....	Painter.
John Koos.....	32	7 " ..	Asst. Till'n	123 N. Washington st..	Canmaker.
John Croucher.....	34	7 " ..	Hostler ...	509 Wills street.....	Hostler.
John McClellan.....	61	24 " ..	Ladderm'n	14 N. Ann street.....	Sailmaker.
James T. Reilly.....	42	20 " ..	"	1626 E. Lombard st..	Painter.
Charles W. Johnson....	29	2 yrs. 9 mo.	"	1635 E. Baltimore st..	Hostler.
Robert R. Perry.....	25	2 yrs. 6 mo.	"	235 S. Chester street..	Iron Moulder.
George B. King.....	24	2 yr. 10 mo.	"	116 S. Washington st..	Tinner.
Frederick Grauling.....	30	2 years....	"	2031 Canton avenue..	Laborer.
Bernhard P. Rudel.....	31	8 mo. 15 d.	"	2435 E. Monument st.	Candymaker.

HOOK AND LADDER COMPANY No. 4.

Located on Biddle Street, near Druid Hill Avenue.

Name.	Age.	Time of Service.	Position.	Residence.	Former Occupation.
William White	49	26 years...	Captain...	819 George street.....	Carpenter.
John H. Morgan	44	22 " ...	Lieutenant	413 Fremont street...	Paperhanger.
William A. Meushaw...	43	8 " ...	Tillerman..	1021 N. Calhoun st....	Mariner.
John Kurne	35	8 " ...	Asst. Till'n	415 W. Hoffman st....	Shoemaker.
James B. Kelley	36	8 " ...	Hostler...	518 W. Biddle street..	Driver.
John G. Gill	64	34 " ...	Ladderm'n	813 W. Fayette street.	Painter.
Jacob A. Wisong	35	3 yrs. 9 mo.	"	922 Argyle avenue....	Painter.
George E. Gill	36	4 years....	"	636 Clinton avenue...	Painter.
Malcolm W. Jordan	25	2 yrs. 5 mo.	"	503 W. Franklin st...	Driver.
George Kennard..	27	3 yrs. 4 mo.	"	535 Mosher street....	Clerk.
Charles Sapp	33	1 yr. 11 mo.	"	2628 Florence street..	Laborer.
William C. McKenna...	32	5 months...	"	404 Fremont street...	Tinner.

HOOK AND LADDER COMPANY No. 5.

Located on Aisquith Street, near Oliver Street.

Name.	Age.	Time of Service.	Position.	Residence.	Former Occupation.
William H. Hartman	36	12 years	Captain	1503 Aisquith street	Plumber.
Lawrence Blake	49	23 "	Lieutenant	1543 Aisquith street	Painter.
William I. Johns	40	7 "	Tillerman	1430 E. Lanvale street	Bricklayer.
William F. Beall	34	8 "	Asst. Till'n	1407 Holbrook street	Canmaker.
William Quinn	44	8 "	Hostler	1303 N. Eden street	Driver.
William Wiley	52	7 "	Ladderm'n	1308 Harford avenue	Cigarmaker.
Howard E. Curry	45	3 "	"	929 E. Preston street	Driver.
John Sullivan	31	4 "	"	836 Ensor street	Painter.
Peter Mullen	35	4 "	"	1332 Hillman street	Painter.
John L. Emerson	26	3 "	"	1608 E. Oliver street	Painter.
Harry F. Bodge	36	2 yrs. 6 mo	"	1507 N. Central avenue	Hardwood fin'r.
James J. McGraw	41	1 yr. 10 mo	"	1306 Aisquith street	Clerk.

HOOK AND LADDER COMPANY No. 6.

Located on Hanover Street, Corner Ostend Street.

Name.	Age.	Time of Service.	Position.	Residence.	Former Occupation.
Thomas D. O'Keefe	29	6 yr. 6 mo.	Captain	1343 S. Charles st	Driver.
Frederick G. Beck	39	5 years	Lieutenant	1109 S. Sharp street	Photographer.
James Gill	49	15 "	Tillerman	8 E. West street	Moulder.
Antone Kemp	45	6 yr. 8 mo.	Asst. Till'n.	35 E. Ostend street	Driver.
George D. Taylor	61	25 years	Hostler	1502 Hanover street	Hostler.
Daniel Vogelgesang	37	5 "	Ladderm'n	1425 Covington st	Canmaker.
William H. Lalotte	28	3 yr. 8 mo.	"	1136 Hanover street	"
Louis Matthaei	30	2 yr. 2 mo.	"	1336 " "	Cooper.
Henry Toepfer	27	1 yr. 10 mo.	"	1415 " "	Baker.
Charles F. Fay	37	1 yr. 10 mo.	"	21 E. Ostend "	Laborer.
William L. Dailey	28	1 yr. 6 mo.	"	1743 S. Charles "	Driver.
William Leonard	39	10 months.	"	33 W. Cross street	Laborer.

CHEMICAL ENGINE COMPANY No. 1.

Brunswick Street near Frederick Road.

Name.	Age.	Time of Service.	Position.	Residence.	Former Occupation.
Edward W. Steinacker..	34	6 yrs. 6 mo.	Captain...	5 Brunswick street..	Hostler.
John A. Epp.....	32	1 yr. 10 mo.	Hostler...	434 Frederick road...	Driver.
Antone Yienger.....	29	5 yrs. 5 mo.	Pipeman..	114 Millington ave...	Candymaker.

CHEMICAL ENGINE COMPANY No. 2.

Mary Street near Retreat Street.

Name.	Age.	Time of Service.	Position.	Residence.	Former Occupation.
James H. Merrick.....	54	6 years...	Captain...	2646 Mary street.....	Cardriver.
James K. Merrikin.....	33	6 " ...	Hostler...	2623 Frances street...	Driver.
Christian Freyer.....	36	7 yrs. 7 mo.	Pipeman..	2013 Walbrook ave....	Blacksmith.

CHEMICAL COMPANY No. 3.

Located at No. 18 *Engine House, Twenty-first Street near Oak Street.*

Name.	Age.	Time of Service.	Position.	Residence.	Former Occupation.
Ralph S. Ferguson.....	38	5 yrs. 10 mo	Captain...	50 E. 26th street.....	Cardriver.
James A. Clark.....	30	3 yrs. 4 mo.	Hostler ...	332 W. 21st street....	Cardriver.
Michael J. Griffin.....	32	1 yr. 10 mo.	Pipeman ..	314 W. 21st street....	Hostler.

CHEMICAL ENGINE COMPANY No. 4.

Waverly.

Name.	Age.	Time of Service.	Position.	Residence.	Former Occupation.
William H. Taylor.....	53	6 years....	Captain....	3108 York Road.....	Conveyancer.
William Lamb.....	32	4 months..	Hostler...	156 Old York Road...	Cardriver.
Michael J. Farley.....	30	5 years....	Pipeman ..	12 Wilson street.....	Cardriver.
James Hart.....	38	5 years....	" ..	122 Old York Road...	Carpenter.

CHEMICAL ENGINE COMPANY No. 5.

Homestead.

Name.	Age.	Time of Service.	Position.	Residence.	Former Occupation.
Samuel R. Watkins....	40	4 years....	Captain...	5 Polk street	Sailmaker.
Robert P. McFarland...	28	6 "	Hostler....	50 Gorsuch avenue...	Cardriver.
John W. Schaffer.....	28	1 yr. 11 mo.	Pipeman..	514 4th st., Woodb'y.	Moulder.

CHEMICAL ENGINE COMPANY No. 6.

Belair Avenue.

Name.	Age.	Time of Service.	Position.	Residence.	Former Occupation.
Frank Maher.....	39	6 years.....	Captain....	41 Belair avenue.....	Laborer.
Zachariah H. Foote....	30	2 yr. 10 mo.	Hostler....	39 " "	Driver.
John E. Wallace.....	30	3½ years...	Pipeman..	1718 E. Madison st...	Painter.

CHEMICAL ENGINE COMPANY No. 7.

Roland and Third Avenues, Hampden.

Name.	Age.	Time of Service.	Position.	Residence.	Former Occupation.
James J. Reynolds.....	36	5 years...	Captain...	431 Roland avenue...	Cardriver.
James L. Clarken	36	6 " ...	Hostler....	226 Hickory avenue..	Driver.
John L. Thomas..... ..	26	2 yrs. 6 mo.	Pipeman..	295 Chestnut avenue.	Blacksmith.

No. 7 TRUCK.

Waverly.

Name.	Age.	Time of Service.	Position.	Residence.	Former Occupation.
Joseph J. Presley.....	27	1 yr. 10 mo.	Hostler...	420 Waverly avenue..	Cardriver.

No. 8 TRUCK.

Brunswick Street, near Frederick Road.

Name.	Age.	Time of Service.	Position.	Residence.	Former Occupation.
John L. Durham.....	31	5 yrs. 7 mo.	Hostler....	109 Millington ave...	Driver.

No. 9 TRUCK.

Roland and Third Avenues, Hampden.

Name.	Age.	Time of Service.	Position.	Residence.	Former Occupation.
George U. McFadden....	26	2 yrs. 7 mo.	Hostler....	724 Third avenue.....	Driver.

FIRE RECORD.

RECORD OF FIRES AND ALARMS FOR THE YEAR ENDING DECEMBER 31, 1894.

Date.	Box.	Hour A.M.	Hour P.M.	Locality.	Occupant.	How Occupied.	Engines in Service.	H. & L. in Service.	Style of Buildings.	Remarks.
January.										
Tuesday 2	214	1.56½	.....	1002 E. Baltimore st	H. Bernstein.	Saloon and dwelling.	3, 4	1	Three-story brick	Loss, $711.66. Recall 2.44 a.m.; unknown.
Wedn'y 3	215	4.48	.....	1110 E. Lexington street.	George Copper.	Dwelling.	4, 6	1	Two-story and attic frame.	Loss, $521.21. Recall 6.28 a.m.; unknown.
Thurs'y 4	362	.....	7.33	675 W. Franklin st.	Mrs. Mary Lane.	Dwelling.	.....	4	Three-story brick	Loss, $35.00. Recall 7.54 p.m.; unknown.
Friday 5	534	.....	2.10½	1142 Russell st.	James A. Chambers.	Dwelling.	10	6	Two-story brick.	Loss, $53.25, Recall 2.28 p.m.; unknown.
Satur'y 6	214	7	.....	1006 Necessity alley	Granville Jones...	Dwelling.	6	1	Two-story brick.	Loss, $185. Recall 7.44 a. m.; explosion of coal-oil lamp.
Sunday 7	157	.....	4.37¼	720 S. Bond st.	John D. Krennie.	Physician's office and tenement.	.....	3	Three-story brick	Loss, $21.55. Recall 5 p.m.; lighted cigar thrown in wooden box.
Sunday 7	128	.....	5.40	109 Centre Market Space.	Simon Shupani.	Tailor shop and dwelling.	.....	1	Three-story brick	Loss, $208. Recall 5.54 p. m.; explosion of coal-oil lamp
Monday 8	159	12.27	.....	1624 Canton ave.	P. Sachs.	Tailor shop and dwelling.	.....	3	Three-story brick	Loss, $120. Recall 1.10 a.m.; unknown.
Monday 8	623	11.14	.....	816 S. Charles st.	Joseph Bittel.	Shoe store and dwelling.	2	6	Three-story brick	Loss, $32.60, Recall 12.04 p. m.; overheated stove pipe.
Monday 8	315	.....	2.54	....	....	....	.....	.....	....	Loss, none. Recall 3 p.m.; false alarm.

Monday 8	631	.....	7.33	1339 Hanover st.	John W. Parks.	Stable.	12	6	Two-story brick.	Loss, $347.96. Recall 8.57 p.m.; unknown
Tuesday 9	159	9.26	.....	1705 Aliceanna st.	Henry Adler.	Provision store and dwelling	....	3	Three-story brick	Loss, none. Recall 9.46 a. m.; explosion of gas meter.
Tuesday 9	215	.....	6.27	140 Rogers ave.	Joseph Waters.	Dwelling.	....	.....	Two-story brick.	Loss, $12.00. Recall 6.31 p. m.; explosion of coal-oil lamp.
Wedn'y 10	6	1.20	.....	121 Mercer st.	Rockstroh & Son and others.	Machine shop and club room	4	1	Four-story brick.	Loss, $178.96. Recall 2.15 a.m.; unknown.
Wedn'y 10 2d alarm. 3d alarm.	248	.....	5.50 5.55 6.10½	225 to 241 North st.	The Henry McShane Co.	Brass foundry and machine shop.	1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 15	1, 2, 4. 5	Four-story brick.	Loss, $27,553.45. Recall 11.25 p. m.; unknown.
Wedn'y 10	514	.....	1040½	413 W. Dover st.	Philip Scott.	Dwelling.	15	2	Three-story brick	Loss, $15.00. Recall 11.25 p. m.; burning chimney.
Thurs'y 11	145	9.27	.....	1230 E. Fayette st.	M. Goldstein.	Tailor shop and dwelling.	3	3	Three-story brick	Loss, $348,95. Recall 9.47 a. m.; explosion of gasoline stove.
Thurs'y 11	13	.....	10	200 President st.	James Bates.	Elevator factory.	3	1	One-story frame.	Loss, none. Recall 10.15 p. m.; overheated castings.
Satur'y 13	236	.....	2.06	2210 E. Fayette st.	Michael Strobel.	Dwelling.	....	3	Three-story brick	Loss, $27.90. Recall 2.21 p. m.; sparks from pipe.
Satur'y 13	214	.....	4.02	10 N. Exeter st.	Laura Stansbury.	Dwelling.	....	1	Three-story brick	Loss, $24. Recall 4.10 p. m.; unknown.
Satur'y 13	299	.....	11.52	11 W. 21st st., Annex.	Donaldson & Barton.	Provision store.	18 Chem. 3	5	Two-story brick.	Loss, $30.88. Recall 12.25 a. m., 14th; unknown.
Sunday 14	44	.....	12.04	32 S. Holliday st.	A. Carey & others	Office building.	....	.....	Four-story store.	Loss, none. Recall 12.15 p.m; smoke from windows.

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Date.	Box.	Hour A.M.	Hour P.M.	Locality.	Occupant.	How Occupied.	Engines in Service.	H. & L. in Service.	Style of Buildings.	Remarks.
Sunday 14	531	.....	9.39	722 Ramsay street.	H. F. Bockmiller.	Dwelling.	10, 12	2	Three-story brick	Loss, $73.79. Recall 9.50 p.m.; unknown.
Monday 15	247	702	.....	545 N. Gay street.	A. Worcht.	Millinery Store and dwelling.	6	5	Three-story brick	Loss, $1,010.00. Recall 7.40 a.m.; unknown.
Tuesday 16	236	9.40	.....	401 N. Chester st.	Ferd. H. Miller.	Grocery store and dwelling.	11	.....	Three-story brick	Loss, $57.80. Recall 9.55 a.m.; spontaneous combustion.
Tuesday 16	435	.....	1.56	303 Scott street.	James Linton.	Dwelllng.	10	.....	Three-story brick	Loss, none. Recall 2.06 p.m.; unknown
Wedn'y 17	3 2	1259½	.....	31st street, near Huntingdon avenue, ex., Annex.	Wm. N. Wyeth.	Stable and storehouse.	Chem.3,4,7	9	Two-story frame.	Loss, $2,425.23. Recall 6.26 a.m.; unknown.
Wedn'y 17	217	.....	7.13	852 N. Front street.	Wm. M. Sweeney.	Saloon and dwelling.	6	.....	Two-story-brick.	Loss, $63.60. Recall 7.19 p.m.; unknown
Thurs'y 18	141	.....	9.25	Rear of 1128 Block street.	Roland Nitch.	Wharf.	4	1	Wharf.	Loss, none. Recall 9.45 p.m.; incendiary.
Friday 19	634	1023½	.....	1020 E. Fort ave.	Casper Dockmish.	Dwelling.	12	6	Two-story and attic brick.	Loss, $35.00. Recall 10.39 a. m.; unknown.
Friday 19	422	....	7.18	Rear of 316 W. Baltimore street.	J. Leopold & Son.	China store.	1	1, 2,	Five-story brick.	Loss, $10.00. Recall 7.26 p.m.; lighted cigar thrown in straw.

Friday 19	266	.....	10.54	1401 E. Monument street.	Chas. A. Sefton.	Coach factory.	9	5	Three-story brick	Loss, $2.75. Recall 11.07 p.m,; overheated forge.
Friday 19	215	.....	10.59	215 Aisquith street.	Isaac Preeman.	Dwelling.	3	1	Two-story frame.	Loss, $312.56. Recall 11.21 p. m,; explosion of coal oil lamp.
Sunday 21	157	2.14½	.....	709 & 711 S. Bond st.	George Rosenthal and others.	Storage sheds.	3, 5	3	One-story frame.	Loss, $96.83. Recall 3.25 a. m.; sparks from smoke-house.
Sunday 21	395	4.52	.....	406 Falls Road, Hampden, Annex.	John Chambers.	Dwelling.	Chem. 1, 3	9	Two-story frame.	Loss, $255.00. Recall 6 a.m.; explosion of coal-oil lamp.
Sunday 21	128	.....	7.03	N. W. Cor. Frederick & Water sts.	Standard Oil Co.	Office building.	3, 4	1	Four-story brick.	Loss, $230.80. Recall 7.27 p. m.; electric light wire.
Monday 22	353	.....	4.47	North ave & John st.	City of Baltimore.	Wookwork in sewer.	18 Chem. 3	.....	Woodwork in sewer.	Loss, none. Recall 7.15 p.m.; explosion of gas.
Tuesday 23	182	.....	1.40	2319 to 2325 Boston street.	James S. Farron & Co.	Oyster and fruit packing house.	11	3	One and two-story frame.	Loss, $433.88. Recall 2.45 p. m.; overheated stack.
Wedn'y 24	394	3.59¾	.....	527 Third avenue Hampden, Annex.	Harry E. Stanford	Dwelling.	Chem. 7	.....	Two-story brick.	Loss, $90.74. Recall 4.51 a.m.; mice nibbling matches.
Thurs'y 25	356	9.24	.....	Laurens street near Linden ave.	City of Baltimore.	Sewer.	....	.....	Sewer.	Loss, none. Recall 9.35 a.m.; explosion of gasoline lamp.
Friday 26	143	9.56	.....	1151 Granby street.	Louis Knoche.	Tenement.	3	3	Three-story brick	Loss, $14.00. Recall 10.08 a.m.; lighted cigarette thrown in straw.
Friday 26	243	.....	6.32	1015 Hager's court.	Edward Hall.	Dwelling.	6	.....	Two-story brick.	Loss, $13.50. Recall 6.46 p.m.; defective flue.

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Date.	Box.	Hour A.M.	Hour P.M.	Locality.	Occupant.	How Occupied.	Engines in Service.	H. & L. in Service.	Style of Buildings.	Remarks.
Friday 26	314	.....	9.34	500 Park avenue.	Wm Gilmore.	Dwelling.	....	4	Three-story brick	Loss, none. Recall 9.45 p.m.; burning chimney.
Satur'y 27	247	.....	10.47	731 Stirling street.	Nellie Blackwell.	Dwelling.	6	5	Two-story and attic brick.	Loss, $218.96. Recall 11.35 p.m.; explosion of coal oil lamp.
Sunday 28	282	7.14	.....	Erdman ave., near Belair rd., Annex.	John Dorm.	Greenhouse.	Chem. 4, 5 6	7	One-story brick.	Loss, $903.00. Recall 8.37 a.m.; overheated furnace.
Monday 29	163	.....	1.56	125 N. Ann street.	Henry Staylor.	Dwelling.	5, 9, 11	3	Two-story brick.	Loss, $537.20. Recall 3.24 p.m.; children playing with matches.
Tuesday 30	234	11.11	.....	419 N. Wolfe street.	Mary Weber.	Dwelling.	9	3	Three-story brick	Loss, $33.50. Recall 11.36 a.m.; defective flue.
Tuesday 30	156	.....	1.30	1623 Shakespeare st.	August Karminski.	Tenement.	....	3	Two-story brick.	Loss, $48.75. Recall 1.38 p.m.; sparks from stove.
Wedn'y 31	383	.....	4.50	1302 Druid Hill ave.	Mary Walters.	Dwelling.	13	.....	Three-story brick	Loss, $20.00. Recall 5.10 p.m.; unknown.
February.										
Thurs'y 1	221	11.34	.....	S. E. cor. Holliday and Saratoga sts.	Joshua Regester & Sons.	Brass foundry.	4	1	Four-story brick and iron.	Loss, $25.00. Recall 12.21 p.m.; friction of machinery.

Friday	2	614	8.12	.....	1000 Johnson street.	John Knorn.	Dwelling.	12	.....	Three-story brick	Loss, none. Recall 8.21 a.m.; children playing with matches.
Friday	2	52	.....	6.03	133 N. Welcome al.	Henry Classen & Son.	Stable.	2	2, 6	Two-story brick.	Loss, $211.43. Recall 8.35 p.m.; unknown.
Satur'y	3	543	3.54½	.....	222 E. Cross street.	Barbara Sheppering.	Bakery and dwelling.	.....	.....	Three-story brick	Loss, $93.35. Recall 4.12 a.m.; explosion of gasoline stove.
Satur'y	3	151	.....	8.27	22 S. Bethel street.	Elizabeth Griffin.	Dwelling.	....	3	Two-story and attic brick.	Loss, $5. Recall 8.53 p. m.; overheated stove.
Satur'y	3	213	.....	9.19	237 N. Gay street.	J. Riskin.	Dwelling.	6	1, 3	Three-story brick	Loss, $1,230.46. Recall 11.10 p. m.; overheated stove.
Sunday	4	319	.....	8.14	N. E. cor. Mt. Vernon pl. and Charles street.	Mt. Vernon place M. E. congregation.	Church.	7	4	Two-story stone.	Loss, $105.50. Recall 8.56 p.m., carelessness.
Monday	5	335	.....	6.58	1311 Madison ave.	Isaac McCurley.	Dwelling.	....	.....	Three-story brick	Loss, none. Recall 7.18 p.m.; defective flue.
Monday	5	163	.....	9.20	5 N. Washington st.	Edward Singewald.	Stable.	....	3	Two-story frame.	Loss, none. Recall 9.34 p.m.; children playing with matches.
Wedn'y	7	161	5.23	.....	803 S. Ann street.	Chris. Weber.	Tenement.	5	3	Two-story and attic brick.	Loss, $191.50. Recall 6,29 a.m.; incendiary.
Thurs'y	8	157	1.22	.....	630 S. Bond street.	John B. Frazier.	Wood turning shop and dwelling.	3, 5	3	Two-story and attic brick.	Loss, $474.78. Recall 2.49 a. m.; unknown.
Satur'y	10	291	10.57	.....	Ware street, near Barclay street, Annex.	Louis Gaines.	Dwelling.	Chem. 3, 4.	7	Two-story frame.	Loss, $36.00. Recall 11.30 a. m.; children playing with matches.

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Sunday 11	52	12.40	.....	266 Wayne street.	Thos. B. Graham	Dwelling.	2	6	Two-story and attic brick.	Loss, $15.00. Recall 12.55 a. m.; unknown.
Sunday 11	212	.....	4.29	622 E. Baltimore st.	W. V. P. Montgomery.	Dining saloon and lodging house.	3, 4, 6	1	Three-story brick	Loss, $226.24. Recall 5.36 p.m.; unknown.
Sunday 11	157	.....	6.13½	711 S. Bond street.	Bernhard Hang.	Tenement.	....	3	Two-story and attic brick.	Loss, $20. Recall 6.31 p. m.; unknown.
Monday 12	236	.....	9.33	401 Chester street.	Frank H. Miller.	Grocery store and dwelling	.....	3	Two-story brick.	Loss, $108.52. Recall 10 p. m.; spontaneous combustion.
Monday 12	252	.....	9.48	503 E. Preston st.	Central Railway Company.	Car shed.	....	5	One-story frame..	Loss, none. Recall 9.58 p. m.; disconnected gas-pipe.
Wedn'y 14	251	.....	12.06	1000 Harford ave.	Henry W. Becker	Drug store and dwelling.	....	5	Three-story brick	Loss, $100. Recall 12.27 p. m.; defective flue.
Wedn'y 14	281	.....	5.10¾	14 Belair avenue, Annex.	William Baltz.	Dwelling.	6 Chem 5.	5	Three-story brick	Loss, $40. Recall 5.44 p.m.; thawing water pipes.
Thurs'y 15	281	1.26	.....	2343 North avenue, Annex.	Mrs. J. Hodja.	Greenhouse.	9 Chem 6.	5	One-story frame .	Loss, $477.19. Recall 2.55 a. m.; overheated furnace.
Thurs'y 15	217	6.44	.....	600 Buren street.	Robt. Starr & Co.	Snuff factory.	4, 6	1, 5	Three-story brick	Loss, $597.70. Recall 9.04 a. m.; spontaneous combustion.

Friday	16	162	7.35	.....	733 S. Ann street.	Anton Bylasky.	Tenement.	.....	.....	Two-story brick.	Loss, $35. Recall 7.50 a. m.; overheated furnace.
Friday	16	526	.....	5.07	214 W. Camden st.	John Simms and others.	Tenement.	Chem. 1, 2 15	1, 2	Three-story brick	Loss, $708.17. Recall 6.35 p.m.; explosion of gasoline stove.
Friday 2d alarm.	16	464	.....	6.09 6.28	N.W. cor. Boyd and Calhoun streets.	Church of the Disciples Cong'n.	Church.	1, 8, 10 14, 15	2, 4	Two-story wood and iron.	Loss, $2,449.68. Recall 8.43 p.m ; defective flue.
Friday 2d alarm.	16	633	.....	6.17 6.39	Foot of Webster st.	Maryland Steamboat Company.	Steamboat Ida.	2, 5, 12 16	3, 6	Steamboat.	Loss, $51,000. Recall 10.40 p.m; lighted torch near woodwork.
Friday	16	526	.....	6.53½	214 W. Camden st.	John Simms and others.	Tenement.	Chem. 6 15	5	Three-story brick	Loss, none. Recall 8.27 p.m.; unknown.
Friday	16	441	.....	7.41	112 N. Charles st.	Jeffry & Rogers and others.	Photo gallery & office build'g	7, 15	1	Three-story brick	Loss, $387.00. Recall 9.50 p.m.; unknown.
Satur'y	17	176	2.10	.....	2119 Jefferson st.	John Kleima.	Saloon and dwelling.	9	3	Two-story brick.	Loss, $245. Recall 2.46 a. m.; overheated stove.
Satur'y	17	361	.....	7.11½	306 N. Greene st.	Elizabeth Berry.	Dwelling.	....	.....	Three-story brick	Loss, $16. Recall 7.19 p. m.; lace curtain against gas jet.
Monday	19	436	8.20	.....	419 W. Lombard st.	Bernhard Bros.	Printing office.	Chem. 15	2	Two-story brick.	Loss, $17.50. Recall 8.28 p.m.; kindling fire with benzine.
Mo day	19	316	.....	3.52	Calvert street, near Madison street.	Lyola College.	College.	.. ..	1	Three-story brick	Loss, $15. Recall 5.07 p. m.; sparks from stove-pipe.
Wedn'y	21	414	7.16	.....	222 W. Baltimore st.	Hartman & Dunbracco.	Furniture store.	1, 4, 7, 15, Chem. 15	1, 2	Five-story brick.	Loss, $1.739.23. Recall 9.28 a.m.; defective flue.

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Wedn'y 21	242	.....	1.45½	904 Forrest street.	Louis Beaubiere.	Organ factory.	6	5	One-story brick.	Loss, $20. Recall 2.11 p.m.; sparks from chimney.
Wedn'y 21	637	.....	4.05	.....	.....	.....	.....	.....	.....	Loss, none. Recall 5.20 p.m.; false alarm.
Friday 23	158	3.16½	.....	1519 Thames street.	Michael Klein-Schmidt.	Tenement.	.....	3	Two-story and attic brick.	Loss, $72.00. Recall 3.28 a.m.; defective flue.
Satur'y 24	26	.....	1.27	726 N. Gay street.	August H. Feige.	Dwelling.	9	5	Two-story and attic brick.	Loss, $5. Recall 1.39 p.m.; sparks from chimney.
Satur'y 24	171	.....	5.34	2148 Boston street.	Wm. H. Ashton & Brother.	Wood and coal yard.	.....	.....	Wood and coal yard.	Loss, none. Recall 5.46 p.m.; rosin boiling over.
Satur'y 24	353	.....	7.22	1907 Tuttle alley.	Michael Kavanaugh.	Dwelling.	Chem 3.	4	Two-story frame.	Loss, $10.00. Recall 7.43 p.m.; burning chimney.
Sunday 25	283	.....	12.04	84 Harford ave. ext. Annex.	Philip Campbell.	Smoke-house.	9 Chem 5, 6.	5	One-story brick.	Loss, $105. Recall 1.12 p.m.; unknown.
Monday 26	522	4.30	.....	318 Light street.	J. K. B. Emory & Co.	Produce and commission warehouse.	2	1	Five-story brick.	Loss, $15.00. Recall 4.39 a.m.; electric light wire.
Monday 26	347	.....	5.56	.....	.....	.....	.....	.....	.....	Loss, none. Recall 6.06 p.m.; false alarm.

Tuesday 27	4	.....	10.04	203 E. Baltimore st.	P. B. McLaran & others.	Printing and broker offices.	4	1	Five-story brick.	Loss, $53.83. Recall 10.14 p.m.; overheated boiler.
Tuesday 27	382	.....	12.59	800 W. North ave.	F. N. Lazenby.	Dwelling.	.....	.....	Three-story brick	Loss, $12.00. Recall 1.14 p.m.; explosion of coal-oil stove.
Wedn'y 28	157	.....	4.40	701 S. Bond street.	Stanislaus Myskenski.	Dwelling.	.....	3	Three-story brick	Loss, $92.90. Recall 4.50 p.m.; smoking pipe in bed.
Wedn'y 28 Annex.	394	.....	....	204 Hickory ave.	Jesse Gosnell.	Dwelling.	Chem 7.	.....	Two-story frame.	Loss, none. Recall 8.13 p.m.; defective flue.
March. Thurs. 1.	435	1221½	.....	741 Ryan street.	Lee Hancock.	Saloon and dwelling.	10	2	Two-story brick.	Loss, $112.50. Recall 12.03 a.m.; mice nibbling matches.
Friday 2.	35	.....	5.25½	870 Linden avenue.	John P. Lang.	Feed store.	1, 7	4	Three-story brick	Loss, $632.45. Recall 8.17 p.m.; unknown
Friday 2.	157	.....	7.27	1530 Lancaster st.	Aug. Agusbjuake	Tenement.	3	5	Two-story and attic brick.	Loss, $92.50. Recall 7.50 p.m.; unknown
Sunday 4.	382	.....	4.10	1010 W. North ave.	John P. Johns.	Livery stables.	7, 8, 13, Chem. 2	4	Two-story brick.	Loss, $2,690.47. Recall 5.42 p.m.; unknown.
Sunday 4.	158	.....	7.43¼	829 N. Bond street.	Matth's Borlinski	Tenement.	.....	3	Two-story and attic brick.	Loss, $93.00 Recall 8.35 p.m.; upsetting of coal oil lamp.
Sunday 4.	419	.....	7.59½	407 N. Eutaw st.	Myer Flaut.	Notion store.	.....	2	Two-story and attic brick.	Loss, $10.00. Recall 8.07 p.m.;unknown.
Monday 5.	535	7.39	.....	1361 Carroll street.	William Wolf.	Dwelling.	10	6	Two-story brick.	Loss, $65.00. Recall 8.39 a.m.; spontaneous combustion.
Monday 5.	526	.....	5.08	212 Camden lane.	Augrinze Grufee.	Dwelling.	2	.....	Two-story and attic brick.	Loss, $35.00. Recall 5.16 p.m.; explosion of gasoline lamp.

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Tuesday 6.	426	.....	2.35¼	.....	.....	.....	.....	.....	.....	Loss, none. Recall 2.44 p.m.; false alarm.
Wed. 7.	321	.....	6.19	410 N. Greene st.	Dr. A. Hammond	Dwelling.	.....	.....	Three-story brick	Loss, none. Recall 6.27½ p.m.; unknown.
Wed. 7.	292	.....	6.25	24 Talbott st., Annex.	John E. Taylor.	Dwelling.	Chem. 3, 4	7	Two-story frame.	Loss, $146.09. Recall 8.03 p.m.. overheated stove.
Thursd'y 8	156	.....	8.02	1645 Thames street.	Frank Wenski.	Tenement.	.....	.....	Three-story and attic brick.	Loss, $15.00. Recall 8.13 p. m.; overheated stove.
Friday 9	473	9.21	.....	321 N. Mount street	Van Fairbanks.	Dwelling.	14	4	Two-story brick.	Loss, $95. Recall 9.50 a. m.; child playing with matches.
Friday 9	283	.....	7.02½	82 Harford ave. ext. Annex.	Balto. C P Ry Co	Stable.	9, 18 Chem. 5, 6	5	One-story frame.	Loss, $450.00. Recall 9.44 p. m.; spontaneous combustion
2d Alarm.	....	.....	7.11							
Satur'y 10	156	5.49	.....	822 S. Broadway.	Charles Blinks.	Saloon and dwelling.	3, 5, 11	3	Three-story brick	Loss, $310.00. Recall 5.59½ a. m.; lighted cigar thrown in box of sawdust,
Sunday 11	61	.....	12.14	113 E. York street.	Charles Mason.	Dwelling.	2	.....	Two-story brick.	Loss, none. Recall 12.20 p. m.; grease boiling over.
Monday 12	7	.....	7.02	446 Turner Place, Annex.	Edward Stocksdale. 594	Dwelling.	18	.....	Two-story brick.	Loss, $160.10. Recall 7.32 p.m.; unknown

Tuesday 13	633	12.08	.....	Ft of Lawrence st.	The Charles H. Pearson Co.	Lime kiln and storage shed.	2, 12, 16	6	One-story frame.	Loss $200.00. Recall 3.17 a. m.; overheated kiln.
Tuesday 13	13	8.56	.....	219 McElderry's wh f	Smith, Hammond & Co.	Grain store-house.	3	1	Four-story brick.	Loss, $5.30. Recall 9.15 a. m.; spark from stack.
Tuesday 13	3	11.35	.....	231 N. Calvert st.	Joseph Lewis and others.	.....	4	1	Three-story and attic brick.	Loss. $64.00. Recall 12.09 p. m.; spark from tinner's fire-pot.
Wedn'y 14	263	.....	4.08	1605 Regester street	Valentine Della.	Saloon and dwelling.	9, 18	5	Two-story brick.	Loss, $1,333.20. Recall 6.42 p. m.; unknown.
				1607 Regester street	Jacob Cang.	Dwelling.	Chem. 5	.....	Two-story brick.	
				1609 Regester street	George A. Smith.	Dwelling.	6	.....	Two-story brick.	
				1701 Lansing street	John Vetter.	Dwelling.	.....	.....	Two-story brick.	
				1724 Federal street.	Fredk. Mandago.	Grocery store and dwelling	.....	.....	Two-story brick.	
Thurs. 15.	355	.....	3.23½	230 Richmond st.	W. H. Wherrick.	Paint store and dwelling.	7	.....	Three-story brick	Loss, none. Recall 3.35 p.m.; explosion of can of gasoline.
Friday 16.	146	.....	2.58½	301, 303 E. Falls av	Balto. Waste Co.	Waste factory	3	1	Three story brick	Loss, $50.00. Recall 3.42 p.m.; spark from machinery.
Sat. 17.	453	.....	9.47	733 Vincent alley.	James R. Carroll.	Stable	.....	....	Two-story brick.	Loss, $5.00. Recall 9.58 p. m.; unknown.
Sunday 18.	281	2.14	.....	Gay st. near North avenue.	Balto. City Pass. R. W. Co.	Straw store-house.	Chem. 6	5	One-story frame.	Loss, none. Recall 2.35½ a. m.; unknown.
Sunday 18.	516	3.15	.....	1310 to 1314 Warner street.	Renile Bros.	Show-case factory.	1, 2, 7, 8, 10	2, 6	Two-story brick.	Loss, $11,305.32. Recall 10.56 a.m.; unknown.
2d alarm.	....	3.23	.....	.....	John R. Hugg.	Lumber yard.	12, 15		One-story frame.	

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Sunday 18.	165	8.59	.....	5 N. Broadway.	Wm. H. Stanton.	Dwelling.	3, 5	3	Three-story brick	Loss, $362.00. Recall 9.42 a.m.; unknown
Sunday 18.	515	.....	3.53½	34 S. Eutaw st.	Henry A. Sander.	Basket factory.	1, 15 Chem. 15	2	Two-story frame.	Loss, $257.35. Recall 5.07 a.m.; unknown
Sunday 18.	134	.....	5.41¼	....	....	....	....	.....	....	Loss, none. Recall 5.45 p. m.; false alarm.
Sunday 18.	273	.....	9.46	Collington ave. and Oliver street.	Daniel Donnelly & Son.	Brick shed.	6, 9 Chem.	5	One-story frame.	Loss, $75.00. Recall 11.02 p. m.; sparks from kiln.
Sunday 18.	332	.....	10.34	409 to 413 Orchard street.	James O'Neill.	Livery stable.	....	.....	Two-story brick.	Loss, none. Recall 10.43 p.m.; smoke from windows.
Sunday 18.	359	.....	11.37	1119 Linden ave.	Edwin Baxter.	Dwelling.	7	.....	Three-story brick	Loss, $21.00. Recall 12.07 a. m., 19th; unknown.
Thurs'y 22	423	.....	7.26¼	670 Raborg street.	Fannie Parks.	Dwelling.	....	2	Three-story brick	Loss, $28. Recall 7.33 p.m.; explosion of coal oil lamp.
Friday 23	244	10.04	.....	812 E. Eager st.	John Kilduff.	Dwelling.	.....	.....	Three-story brick	Loss, none. Recall 10.10 a.m.; smoke from windows.
Friday 23	636	.....	2.33	1517 Nicholson st.	Anton Bohn.	Dwelling.	12	6	Three-story brick	Loss, $30. Recall 3,02 p.m.; leaking gas.
Satur'y 24	6	12.55	.....	203 E. Lombard st.	Grey & Brothers.	Shoe factory.	4	2	Four-story brick.	Loss, $30.25. Recall 1.04 a. m.; overheated fire pot.

Satur'y	24	161	10.45	.....	1821 Canton ave.	Geo. A. Zirckel & Company.	Clothing store.	.....	.....	Three-story brick	Loss, $15. Recall 11 a.m.; overheated gas stove.
Satur'y	24	394	.....	6.10	511 Third avenue Hampden, Annex.	Joseph Erney.	Dwelling.	Chem. 3, 7	9	Two-story brick.	Loss, $258.00. Recall 7.05 p. m.; incendiary.
Satur'y	24	362	.....	10.54	710 Bradley street.	Charles Beyer.	Dwelling.	.....	4	Two-story brick.	Loss, $25. Recall 11.04 p.m.; falling coal oil lamp.
Sunday	25	412	12.14	.....	17 W German st.	A. L. Stewart and others.	Office building.	1, 2, 4	1, 2	Four-story brick.	Loss, $365.07. Recall 1.36 a.m.; unknown.
Monday	26	182	.....	10.31	2221 Essex street.	Barbara Hess.	Saloon and dwelling.	11	.....	Three-store brick	Loss, $64.00 Recall 10.37 p. m.; unknown.
Wedn'y	28	35	4.20	.....	230 W. Richmond st	Wm. H. Whenett.	Paint store and dwelling.	7	4	Three-story brick	Loss, $777.06. Recall 5.36 a.m.; overheated stove.
Wedn'y	28	273	.....	9.59	1540 to 1544 N. Gay street.	Annie Zorn, Chas. Peters.	Dwelling and cooper shop.	9, 18 Chem. 6	5	Three-story brick One-story frame.	Loss, $3,267.34. Recall 2.51 a.m., 29th, unknown.
Friday	30	251	6.15½	.....	Ashland and Harford aveuues.	City of Baltimore.	No. 16 Primary School.	....	.....	Two-story brick.	Loss, none. Recall 6.24 a.m.; false alarm
Satur'y	31	163	12.33	.....	124 N. Chapel st.	Anton Kasik.	Dwelling.	5, 9	3	Two-story brick.	Loss, $307.61. Recall 1.59 a.m.; unknown.
Satur'y	31	184	.....	2.36¾	2515 Boston street.	George G. Tyler.	Box factory and saw mill.	11	3	Two-story brick and frame.	Loss, $65. Recall 3.35 p.m.; explosion of steam pipe.
Satur'y	31	25	.....	6.28½	904 Forrest street.	Maryland Organ Company.	Organ factory.	6	5	One-story brick and frame.	Loss, $30. Recall 6.50 p.m.; incendiary.
Satur'y	31	382	.....	7.11½	842 W. North ave.	J. L. Filon.	Dwelling.	....	.....	Three-story brick	Loss, none. Recall 7.36 p.m.; smoke from windows.

RECORD OF FIRES AND ALARMS FOR THE YEAR ENDING DECEMBER 31, 1894.

Date.	Box.	Hour A.M.	Hour P.M.	Locality.	Occupant.	How Occupied.	Engines in Service.	H. & L. in Service.	Style of Buildings.	Remarks.
Satur'y 31	65	.....	8.54	1908 to 1916 Hanover street.	John Hiller. Jacob Blattenberg	Stable.	1, 2	6	Two-story frame.	Loss, $582.40. Recall 11.01 p.m.; incendiary.
April.										
Monday 2.	237	....	3.03	403 N. Chapel st.	Kate King.	Dwelling.	.....	.....	Two-story brick.	Loss, $80.00. Recall 3.22 p.m.; unknown
Tuesday 3.	165	11.05	.....	1643 E. Baltimore st	Minnie Brant.	Pattern store and dwelling	.....	.....	Three-story brick	Loss, $32.50. Recall 11.13 a.m.; unk'n.
Wed. 4.	28	.....	11.26	1846N. Collingt'n av	Charles Roeder.	Tailor shop and dwelling.	9, 6 Chem.	5	Two-story brick.	Loss, $1,934.76. Recall 1.40 a.m.; 5th. overheated furnace.
Thurs. 5.	425	.....	4.43	14 N. Schroeder st.	L. N. Robinson.	Saw mill.	8	2	Two-story brick.	Loss, $50.00. Recall 5.17 p.m.: sparks from stack.
Thurs. 5.	517	.....	5.45	Bush st. nr. Ohio av.	City of Baltimore.	Shed over sewer shaft.	10	6	One-story frame.	Loss, $20.00. Recall 6.10 p.m.; overheated boiler.
Friday 6.	145	1210½	.....	1301 E. Fayette st.	Reuba Jacobs.	Grocery store and dwelling	3, 5	3	Three-story brick	Loss, $466. Recall 1.07 a.m.; overheated stove.
Friday 6.	393	.....	4.57½	160 Chestnut ave.	Annie Nolton.	Dwelling.	Chem. 7	9	Two-story brick.	Loss, none. Recall 5.17 p.m.; burning chimney.
Friday 6.	28	....	5.31	.....	.....	.....	.....	.....	.....	Loss, none. Recall 5.55 p.m.; false alarm.

Friday 6.	165	.....	11.45	1645 E. Baltimore st	Dr. Wm. S. Norris and others.	Drug store, dental office and dwelling.	....	3	Four-story brick.	Loss, $400. Recall 11 53 p.m.; spontaneous combustion.
Sat. 7.	157	.....	8.18	821 to 833 S. Caroline	J H. Thiemy'r & Co	Box factory.	....	3	Three-story brick	Loss, none. Recall 8.50 p.m.; unknown
Sat. 7.	614	.....	10 40	223 E. Hamburg st.	Patrick Kennedy	Iron foundry.	12	6	One-story brick.	Loss, $40.00. Recall 11.04 p.m.; overheated castings.
Sunday 8	141	.....	6.19	....	....	....	....	.....	....	Loss, none. Recall 6.22 p.m.; false alarm.
Monday 9	357	11.32	.....	140 W. Preston st.	Owen Clark.	Dwelling.	7	4	Two-story and attic brick.	Loss, $109.05. Recall 11.57¾ a.m.; unknown.
Monday 9	359	.....	7.33¼	1007 to 1017 N. Eutaw street.	Griffin, Manion and McCoy.	Livery stable and undertaking establishment.	1, 2, 4, 6, 7, 8, 9	1, 2 4, 5	Three-story brick	Loss, $145,411.04. Recall 7.16 p.m. 10th; unknown.
2d alarm.			7.35½				10, 13, 15, 18	6		
3d alarm.			7.38¾				Chem 2, 15.			
Monday 9	425	.....	8.35	921 W. Baltimore street.	Saul Salomon.	Dry goods store.	....	6	Three-story brick	Loss, $525.50. Recall 8.55 p.m.; unknown.
Tuesday 10	423	8.17	.....	736 W. Baltimore street.	Isaac Ottenheimer & Brother.	Stationery store and dwelling.	1 Chem. 15	2	Three-story brick	Loss, $391.42. Recall 8.26 a.m.; overheated stove-pipe.
Wedn'y 11	152	.....	6.07¼	Broadway and Pratt street.	Trinity P. E. Church.	Church.	3, 5	3	Two-story brick.	Loss, $670.04. Recall 7.03 p.m.; overheated furnace.
Wedn'y 11	236	.....	7.15	....	....	....	....	.....	....	Loss, none. Recall 7.32 p.m.; false alarm.
Wedn'y 11	176	.....	9.33	440 N. Patterson Park avenue.	Francis Foxwell.	Dwelling.	.....	.....	Two-story brick.	Loss, $12.00. Recall 9.45 p.m.; upsetting of gasoline stove.

DATE.	BOX.	HOUR A.M.	HOUR P.M.	LOCALITY.	OCCUPANT.	HOW OCCUPIED.	ENGINES IN SERVICE.	H. & L. IN SERVICE.	STYLE OF BUILDINGS.	REMARKS.
Thurs'y 12	128	2.55	.....	614 E. Pratt street.	M. Krakower.	Clothing store and tenement.	3	1	Five-story brick.	Loss, $732.74. Recall 3,03 a.m.; unknown.
Thurs'y 12	482	10.51	.....	1938 Christian st.	Harris Schwartz.	Dwelling.	8, 14	4	Two-story brick.	Loss, $353. Recall 11.44 a.m.; defective flue.
Friday 13	31	.....	12.47	109 Pleasant street.	Rev. Louis Zinkman.	Dwelling.	4	1	Four-story brick.	Loss, $30. Recall 1.10 p. m.; sparks from chimney.
Friday 13	7	....	3.36½	407 W. 26th street. Annex.	Charles Olsen.	Dwelling.	18	.....	Two-story frame.	Loss, $51.25. Recall 4.10 p. m.; unknown.
Friday 13	623	.....	4.56	1010 S. Charles st.	Josephine Goldsmith.	Notion store and dwelling	2, 10, 12	6	Four-story brick.	Loss, $526.46. Recall 6.45 p.m.; explosion of gasoline stove.
				1012 " " "	Christian Barke.	Shoe store and dwelling.			Three-story brick	
Friday 13	212	....	6.37	135 Harrison street.	Louis Bernstein..	Tenement.	3	1	Three-story brick	Loss, $370.00. Recall 6.46 p. m.; unknown.
Satur'y 14	413	5.58	.....	14 and 16 McClellan's alley.	Sadler M'f'g Co.	Office furniture factory.	1, 2, 3, 4, 5, 6, 7	1, 2, 4, 6,	Four-story brick.	Loss, $6,371.09. Recall 11.55 a. m.; overheated boiler.
2d alarm.		6.00½			F. Shultz & Co.	Box factory.	10, 13, 15		Three-story brick	
3d alarm.		6.04¾								
Satur'y 14	441	10.39	.....	1 W. Lexington st.	C. H. Unverzagt and others.	Office building.	4 Chem. 15	.....	Four-story stone.	Loss, $75.00. Recall 10.53 a. m.; unknown.

Satur'y 14	262	.....	12.25	1415 E. Chase street	Wells Ashcraft.	Dwelling.	.....	.....	Three-story brick	Loss, none. Recall 12.29 p.m.; burning chimney.
Sunday 15	712	.....	7.30	Falls road, near Cedar av., Annex.	John Cooper.	Dwelling.	.....	9	Two-story frame.	Loss, none. Recall 7.52 p. m.; burning chimney.
Monday 16	637	.....	7.22½	.....	.....	.....	.....	.....	.....	Loss, none. Recall 7.35 p. m.; false alarm.
Tuesday 17	541	.....	3.02	936 China street.	James Pinder.	Stable.	.....	.....	One-story frame.	Loss, $10.00. Recall 3.05 p. m.; children playing with matches.
Tuesday 17	363	.....	10.30	867 Pierce street.	George Sanders.	Dwelling.	8	.....	Three-story brick	Loss, none. Recall 10.34 p. m.; burning chimney.
Wedn'y 18	143	.....	12.02	1419 E. Pratt street.	Philip Rosenthal.	Dwelling.	.....	3	Three-story brick	Loss, $105.00. Recall 12.18 p. m.; explosion of gasoline stove.
Wedn'y 18	283	.....	9.07	26 Harford road. Annex.	Frank H. Hammond.	Dwelling and Cow shed.	9 Chem, 5, 6	5	Three-story brick and one-story frame.	Loss, $20.00. Recall 10.05 p. m.; incendiary.
Saturd'y21	146	.....	7.39½	211 and 213 S. High street.	Nathan Frank. Saul Silberman.	Rag warehouse.	3, 4, 5, 6	1, 3	Three-story brick	Loss, $278.50. Recall 8.47 p. m.; explosion of barrel of gasoline
				902 and 904 Stiles street.	William Becker.	Dwelling.				
Saturd'y21	159	.....	8.12	604 S. Bond street.	William Frank. Hebrew Congregation.	Clothing store and church room.	.....	.....	Four-story brick.	Loss, $15.00. Recall 8.22 p. m.; gas-jet igniting woodwork.
Sunday 22	14	9.09	.....	High and Pratt sts.	Simon Jacobson.	Grocery store and dwelling	3	1, 3	Two-story and attic brick.	Loss, $859.48. Recall 10.23 a. m.; unknown.

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Date.	Box.	Hour A.M.	Hour P.M.	Locality.	Occupant.	How Occupied.	Engines in Service.	H. & L. in Service.	Style of Buildings.	Remarks.
Sunday 22	416	9.24	.....	510 to 516 W. German street.	Alma Button Co.	Button factory.	1, 2, 7, 15	2, 4	One-story brick.	Loss, $3,168.30. Recall 11.55 a. m.; overheated boiler.
Sunday 22	346	.....	6.23	Linden avenue and Madison street.	George A. Blake.	Pile of Lumber	7	4	Lumber.	Loss, $20,00. Recall 6.37 p. m.; incendiary.
Sunday 22	381	.....	7.00½	1404 Parrish alley.	Unoccupied.	Dwelling.	13 Chem. 2	.....	Two-story brick.	Loss, $43.50. Recall 8.20 p.m.; unknown
Monday 23	384	10.17	.....	2523 Madison ave. Annex.	Daniel Evans.	Dwelling.	Chem. 2	4	Three-story brick	Loss, $484.35. Recall 11.32 a. m.; unknown.
Tuesday 24	213	7.12	.....	1004 Low street.	James A. Proctor	Barbershop and dwelling.	4, 6, 9	1, 5	Two-story brick.	Loss, $224.80. Recall 8.04 a. m.; overheated stove-pipe.
				1006 Low street.	Benj. Milenson.	Dwelling.			Two-story brick.	
Tuesday 24	145	8.30	.....	6 N. Eden street.	John Stumpfelz.	Saloon and dwelling.	.....	3	Three-story brick	Loss, none. Recall 8.38 a.m.; burning chimney.
Tuesday 24	443	.....	1.29	736 to 742 W. Pratt street.	Lowenthal, Goldman & Oppenheim.	Coat and pad factory.	10, 15	2, 4	Four-story brick.	Loss, $524.84. Recall 3.15 p.m.; friction of machinery.
Tuesday 24	513	.....	8.29	34 to 36 Sutton st.	A. C. Meyer & Co.	Patent medicine factory.	15	2	Six-story brick.	Loss, none. Recall 8.40 p.m.; unknown
Wedn'y 25	292	.....	8.30	Old York road and Tinges la., Annex	Joseph Grason.	Dwelling.	Chem. 4.	.....	Two-story and attic frame.	Loss, $30. Recall 9.23 p.m.; defective flue.
Wedn'y 25	437	.....	8.37	649 W. Pratt street.	Fred'k Harmonie	Furniture factory.	1, 2, 10, 15, Ch. 1, 5	2	Three-story brick	Loss, $733.60. Recall 9.38 p.m.; unknown

Satur'y	28	436	.....	1118½	117 and 119 S. Paca street.	J. Sternheimer & Brother.	Stable.	....	2	One-story brick.	Loss, none. Recall 11.28 p.m.; falling wall; no fire.
Sunday	29	34	12.00	.....	Eager and Charles streets.	Maryland Club.	Club-house.	....	4	Four-story stone.	Loss, $25. Recall 12.36½ a.m.; lightning striking wires.
Sunday	29	332	12.21	.....	435 Moore alley.	Solomon Wyman.	Stable.	7	2	Two-story brick.	Loss, $130.46. Recall 1.14 a.m.; unknown
Sunday	29	41	12.53	.....	9 St. Paul street.	Chesapeake & Potomac Telep'ne Co., and others.	Telephone exchange and office build'g	1, 4	1	Six-story brick.	Loss, $50. Recall 1.31 a.m.; electric light wire.
Sunday	29	475	3.16	.....	1700 Harlem ave.	John O'Connor.	Grocery store and dwelling	8, 14	4	Three-story brick	Loss, $65. Recall 3.54 a.m.; unknown.
Sunday	29	389	....	11.21	Ashburton Farm, Old Liberty road, Annex.	John S. Gittings.	Stable, corn house, carriage house.	Chem. 2, 7	9	Two-story brick.	Loss, $9,425. Recall 9.22 a.m., 30th; unknown .
Monday	30	234	.....	9.33	432 N. Durham st.	Mortimer Brown.	Barber shop and dwelling	9	3	Two-story brick.	Loss, $148.39. Recall 10.10 p.m.; unk'wn.
Monday	30	159	.....	11.35	1623 Aliceanna st.	Nicholas L. Dashiell.	Stable.	9	3	Two-story brick.	Loss, $241. Recall 12.47 a.m., 1st; unknown.
May.											
Tuesday	1	214	10.30	.....	204 N. Exeter st.	Harry Roberts.	Dwelling.	....	.....	Two-story brick.	Loss, $19.83. Recall 10.40 a.m.; explosion of gasoli'e stove
Tuesday	1	217	.....	4.22	1048 Buren street.	Elizabeth Wigger	Dwelling.	4, 6	1, 5	Two-story and attic brick.	Loss, $60.00. Recall 5.09 p.m.; overheated stove-pipe.
Wed.	2	423	7.04	.....	625 W. Baltimore st	A. Albert Runge	Wall-paper store and dwelling.	Chem. 15	2	Three-story brick	Loss, $111. Recall 8.33 a.m.; sparks from stove.
Wed.	2	318	.....	7.33¾	Charles and Saratoga streets.	Mercantile Libr'y and others.	Library and office bldg.	....	.....	Six-story brick.	Loss, none. Recall 7.43 p.m.; smoke from windows.

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Sat. 5	159	3.05	.....	1703 and 1705 Canton avenue.	Abr. M. Herford.	Hotel.	3, 5, 9. 11	3	Three-story brick	Loss. $1,483.10. Recall 5.15 a.m.; unknown.
Sat. 5	145	.....	8.08	1251 E. Fayette st.	Philip Beaisch.	Dwelling.	3	3	Three-story brick	Loss, $276.15. Recall 8.29 p.m.; gas jet igniting curtain.
Sunday 6	426	1.19	.....	1129W. Baltimore st	Mary Miller.	Millinery store and dwelling	8	2	Three-story brick	Loss, $355. Recall 1.32 a.m.; unknown
Tuesday 8	425	6.16	.....	912 Hollins street.	John F. Kirby.	Dwelling.	.....	2	Two-story and attic brick.	Loss, $250. Recall 6.27 a.m.; overheated stove-pipe.
Wed. 9	64	.....	1124½	Light and Heath sts	B. C. P. R'y Co.	Car storage shed	.....	6	One-story frame.	Loss, none. Recall 11.41 p.m.; leaking gas-pipe.
Thurs. 10	319	.....	6.50	807 Cathedral st.	Dr. C. F. Bevan.	Stable.	4, 9	4	Two-story brick.	Loss, $570.70. Recall 8.29 p.m.; unknown
Thurs. 10	31	.....	9.56	109 E. Hamilton st	Unoccupied.	Dwelling.	4	.....	Two-story brick.	Loss, $16.00. Recall 10.03 p.m.; unkno'n
Friday 11	423	.....	9.22	746 and 748 W. German street.	Wm. C. Rogers.	Stable.	1, 8, 10	2	Two-story brick.	Loss, $353.12. Recall 11.22 p. m.; unknown.
Satur'y 12	3	11 18	.....	Holliday st., near Fayette st.	Rife, Houck & Co	Holliday Street Theatre.	4	1	Three-story brick	Loss, $20.00. Recall 11.25 a. m.; unknown,

Satur'y	12	142	11.27	.....	411 S. Central ave.	John Gibbons.	Stable.	.....	3	Two-story brick.	Loss, none. Recall 11.34 a. m; children playing with matches.
Satur'y	12	462	.....	1.44½	1919 Lemmon street	William Martin.	Dwelling.	14	.....	Two-story brick.	Loss, $85. Recall 2.03 p. m.; explosion of gasoline stove.
Satur'y	12	232	.....	1.56	1525 Orleans street.	John A. Rappold.	Dwelling.	....	.....	Three-story brick	Loss, $7. Recall 2.04 p. m.; sparks from stove.
Satur'y	12	151	.....	3.19¾	....	....	....	....	.....	....	Loss, none. Recall 3.27 p. m.; false alarm.
Satur'y	12	31	.....	6.15¼	359 Davis street.	Clara Pickett.	Dwelling.	4, 6	1	Three-story brick	Loss, $32.50. Recall 6.24 p. m.; unknown.
Satur'y	12	158	.....	6.26	1532 Thames street.	Jos. Nowaskowski	Tenement.	....	3	Three-story brick	Loss, $35.00. Recall 6.41 p.m.; defective flue.
Satur'y	12	215	.....	9.23	134 Aisquith street.	Benj. Hopkins.	Dwelling.	6	1	Two-story and attic frame.	Loss, $10.00. Recall 9.28 p. m.; unknown.
Sunday	13	216	12.01	.....	1159 Low street.	Ennels Chaney.	Dwelling.	6	1	Two story brick.	Loss, $44.25. Recall 12.29 a. m.; explosion of coal oil lamp.
Sunday	13	416	.....	8.15	615 W. German st.	Alfred Jones.	Dwelling.	....	1	Three-story brick	Loss, $18.50. Recall 8.23 p.m.; explosion of coal oil lamp.
Monday	14	255	.....	9.53	North avenue and Harford road, Annex.	Michael F. Leonard.	Stable.	9, 18 Chem. 5, 6	5	Two-story brick and frame.	Loss, $241.39. Recall 11.12 p.m.; unknown.

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Monday 14	384	.....	9.55	2517 Madison ave, Annex.	S. S. France.	Dwelling.	Chem. 2	.....	Three-story brick	Loss, none. Recall 10.27 p.m.; dropping of lighted match.
Tuesday 15	163	8.47	.... ..	2030 Fairmount ave.	John Collier.	Dwelling.	....	.....	Three-story brick	Loss, none. Recall 8.56 a.m.; explosion of gasoline stove.
Tuesday 15	513	10.20	.....	Lombard and Sharp streets.	Jenkins Waters and others.	Bank and office building.	Chem 15.	.....	Six-story brick.	Loss, $5.00. Recall 10.27 a.m.; spontaneous combustion.
Wedn'y 16	612	.....	11.53	108 E. Hughes st.	John Croghan.	Dwelling.	....	6	Two-story and attic brick.	Loss, $121.91. Recall 12.21 a.m. 17th; rats nibbling matches.
Thurs'y 17	174	.. ....	3.08¼	2108 E. Baltimore street.	Fredk. Krober.	Dwelling.	9	3	Three-story brick	Loss, $206.90. Recall 3.21 p.m., children playing with matches.
Friday 18	143	.....	8.42	1103 E. Pratt street.	Isaac Goldstein and others.	Tenement.	....	.....	Three-story brick	Loss, none. Recall 8.50 p.m.; upsetting of lighted candle.
Friday 18	153	.....	10.04	600 S. Bond street.	Charles W. Hoffmeister.	Saloon and dwelllng.	....	.....	Four-story brick.	Loss, $24.45. Recall 10.13 p.m.; curtain blowing against gas jet.
Satur'y 19	616	.....	1.53	Covington and Donaldson streets.	Joshua Horner.	Fertilizer factory.	....	.....	Three-story brick	Loss, none. Recall 2.05 p.m.; friction of machinery.

Satur'y 19	161	.....	9.05½	1707 Aliceanna st.	John Nicholl and others.	Barber shop and tenement.	5, 11	3	Three-story brick	Loss, $179.80. Recall 10.04 p.m.; unknown.
Sunday 20	259	7.34	.....	1111 Ensor street.	Helen Sarbacher.	Dwelling.	....	5	Three-story brick	Loss, $62.50. Recall 7.39 a.m.; explosion of gasoline stove.
Sunday 20.	395	9.21	.....	533 Falls road. Annex.	Andrew J. Lambert.	Dwelling.	....	.....	Three-story frame	Loss, none. Recall 9.43 a. m.; smoke from windows.
Monday 21	349	.....	9.34	36 E. 25th street. Annex.	Wm. F. Tucker.	Dwelling.	Chem. 3.	7	Three-story brick	Loss, $125.00. Recall 10.59½ p.m.; unknown.
Tuesday 22	51	8.49	.....	15 E. Pratt street.	Lerch Bros., F. A. Kurtz.	Harness factory stationery store	2, 3, 4, 15.	1, 2	Four-story brick.	Loss, $5,104.33. Recall 12.53 p.m.; unknown.
Tuesday 22	243	.....	12.07	815 Ensor street.	Max Goldberg.	Tailor shop and dwelling.	6	5	Three-story brick	Loss, $296.45. Recall 12.14 p.m.; explosion of gasoline stove.
Tuesday 22	283	.....	8.34	Harford avenue and Cemetery lane. Annex.	B. C. P. R'y Co.	Feed storage shed.	9, 18. Chem. 5, 6	5	Two-story frame.	Loss, $304.15. Recall 11.09 p. m.; unknown.
Thurs. 24.	234	.....	5	200 N. Wolfe st.	Abraham Beckheimer.	Junk store and dwelling.	9	3	Three-story brick	Loss, $10.00. Recall 5.23 p.m.; spontaneous combustion.
Friday 25.	532	10.04	.....	546 W. Barre st.	Unoccupied.	Dwelling.	....	.....	Three-story brick	Loss, none. Recall 10.16 a.m.; smoke from windows.
Friday 25.	346	.....	3.42	308 W. Madison st.	Chas. R. Noll.	Dwelling.	7	.....	Two-story and attic brick.	Loss, $33.61. Recall 3.51 p.m.; explosion of gasoline stove.

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Satur'y 26.	245	.....	5.35	864 W. Balto. st.	Chas. H. Rolf.	Stove store and dwelling.	1, 8, 10, 13 Chem. 15.	2	Three-story brick	Loss, $1,638.59. Recall 7.35 p.m.; child stepping on parlor match.
Satur'y 26.	242	.....	8.56	819 Greenmount av.	Wm. P. Collins.	Furniture store.	6	5	Three-story brick	Loss, $22.50. Recall 9 p.m.
Satur'y 26.	395	.....	10.02	502 Falls road. Annex.	Benj. Crouther.	Dwelling.	....	.....	Three-story brick	Loss, none. Recall 10.17 p.m,; lighted lamp near paper.
Sunday 27	152	4.46½	.....	1531 E. Pratt street	Henry Liedlich.	Bakery and dwelling.	....	3	Three-story brick	Loss, $15.75. Recall 4.53 a. m.; lard boiling over.
Wedn'y 30	425	1.05	.....	942 W. Baltimore st.	Moses Salomon.	Cigar store and dwelling.	8.14	2	Three-story brick	Loss, $111.25. Recall 1.21 a. m.; unknown.
Wedn'y 30	12	.....	12.00	Gay and Baltimore streets.	Chas C. Hablesston.	Drug store.	....	2	Three-story brick	Loss, none. Recall 12.04 p. m.; explosion of bottle of acid.
Thurd'y 31	248	.....	11.08	362 North street.	Charles Kerns.	Saloon and dwelling,	4	1	Two-story and attic brick.	Loss, $182.00. Recall 11.35 p. m.; unknown.
June. Friday 1. Automatic.	822	2.41½	.....	....	....	....	....	.....	....	Loss, none. Recall 2.47 a. m.; false alarm.

Saturday 2	364	11.13	.....	538 Biddle alley.	Charles Gellar.	Dwelling.	7	4	Two-story brick.	Loss, $358.41. Recal 12.04 p. m.; explo sion of coal-oil lamp
Saturday 2	143	.....	9.32	1011 E. Pratt st.	Jno H. Chatterton	Furniture factory.	.....	3	Two-story and attic brick.	Loss, $33.50. Recall 9.50 p. m.; sparks from chimney.
Sunday 3.	435	6.40	.....	233 Parkin street.	Wm. O'Malley.	Tenement.	10	2	Four-story brick.	Loss, $25.00. Recall 6.51 a. m.; explosion of can of gasoline.
Monday 4.	268	.....	10.32	.....	.....	.....	.....	.....	.....	Loss, none. Recall 10.45 p. m.; false alarm; lightning.
Monday 4.	268	.....	10.48	.....	.....	.....	.....	.....	.....	Loss, none. Recall 10.57 p. m.; false alarm; lightning,
Tuesday 5.	12	12.26	.....	.....	.....	.....	.....	.....	.....	Loss, none. Recall 12.30 a. m.; false alarm; lightning.
Tuesday 5.	167	.....	7.53½	419 S. Broadway.	Emanuel Wolfman & Co.	Dry goods store and dwelling	.....	3	Three-story brick	Loss, $253.28. Recall 8.05 p. m.; gas jet igniting goods.
Wed. 6. Automatic.	835	11.09	.....	.....	.....	.....	.....	.....	.....	Loss, none. Recall 11,18 a. m.; accidental alarm.
Wed. 6.	421	.....	4.11	747 W. Saratoga st.	Annie C. Hance.	Dwelling.	1, 8, 13, Chem. 15	2	Three-story brick	Loss, $1,068.90. Recall 5.47 p. m.; unknown.
Friday 8.	64	9.13	.....	1527 Light street.	Wm. Sheick.	Bakery and dwelling.	.....	.....	Three-story brick	Loss, $50.00. Recall 9.31 a. m.; lighted match dropped in basin of gasoline; Miss Ella J. Becker burned to death.

RECORD OF FIRES AND ALARMS FOR THE YEAR ENDING DECEMBER 31, 1894.

Date.	Box.	Hour A.M.	Hour P.M.	Locality.	Occupant.	How Occupied.	Engines in Service.	H. & L. in Service.	Style of Buildings.	Remarks.
Saturday 9	285	7.28	.....	320 Harford road, Annex.	George Ramming	Grocery store.	Chem. 5	.....	Two-story brick.	Loss, none. Recall 7.46 a. m.; lighted match dropped in oil.
Saturday 9 Automatic	817	7.54	.... .	109 Baltimore street	Armstrong, Cator & Co.	Millinery store.	....	.....	Five-story brick.	Loss, none. Recall 8.06 a. m.; heat from boiler.
Monday 11	165	2 59	.....	15 N. Broadway.	Wm. W.Johnson.	Dwelling.	5	3	Three story brick	Loss, $254.99. Recall 3.11 a.m.; unknown
Monday 11	473	10.21	... .	400 Parrish alley.	Anna Stanley.	Dwelling.	8	4	Two-story brick.	Loss, $55.00. Recall 10.40 a. m.; children playing with matches.
Tuesday 12	452	10.32	.....	214 and 216 Vincent alley.	M. V. Johnson, Jacob Watkins.	Dwellings.	8, 13, 14	4	Two-story brick.	Loss, $410.50. Recall 12.07 p. m.; explosion of gasoline stove.
Tuesday 12	432	.....	6.09¼	132 S. Schroeder st.	Albert Strauber.	Bakery and dwelling.	10	.....	Three-story brick	Loss, $58.10. ecall 6.18 p. m.; explosion of gasoline stove.
Thurs'y 14	235	.....	3.41	515 N. Washington street.	Louis Rever.	Stable.	....	.....	One-story frame.	Loss, none. Recall 3.56 p. m.; set on fire by boys.
Tuesday 19	721	11.34	.....	29 Woodberry ave., Annex.	Rev. Page Milburn.	Dwelling.	Chem. 2, 7	9	Three-story brick	Loss, $500.00. Recall 1.07 p.m.; explosion of coal oil lamp.

Tuesday 19	531	.....	7.24½	664 Columbia ave.	Frank Osterman.	Dwelling.	10	2, 6	Three-story brick	Loss, $55.00. Recall 8.04 p.m.; explosion of gasoline stove.
Tuesday 19	418	.....	7.33½	220 N. Howard st.	Alexander Dodd.	Trunk factory.	.....	.....	Four-story brick.	Loss, $78.20. Recall 7.51 p. m.; unknown
Tuesday 19	143	.....	10.45	19 S. Central avenue	Henry Hehnfont.	Dwelling.	.....	.....	Two-story and attic brick.	Loss, none. Recall 10.53 p. m.; lighted match dropped in oil.
Thurs'y 21	393	.....	5.40	826 Second avenue, Annex.	Thomas Snails.	Dwelling.	.....	.....	Three-story brick	Loss, none. Recall 5.50 p.m.; explosion of gasoline stove.
Thurs'y 21	61	.....	7.37½	41 E. York street.	Solomon Coplar.	Dwelling.	2	.....	Two-story and attic brick.	Loss, $48.25. Recall 7.47 p.m.; explosion of gasoline stove.
Satur'y 23	13	8.43	.....	301 and 303 E. Falls avenue.	Baltimore Waste Company.	Waste factory.	3, 5	1, 3	Three-story brick	Loss, $100. Recall 10.01 a.m.; friction of machinery.
Satur'y 23	264	.....	10.08	1521 E. Monument street.	Harry Gosnell.	Grocery store and dwelling	.....	.....	Three-story brick	Loss, none. Recall 10.51 p.m.; lighted match thrown in wood.
Satur'y 23	545	.....	10.42	1240 Scott street.	Charles W. Gross	Grocery store and dwelling	10	6	Two-story brick.	Loss, $110. Recall 11.12 p m.; lighted match thrown in barrel of gasoline.
Sunday 24	13	3.52	.....	301 and 303 E. Falls avenue.	Baltimore Waste Company.	Waste factory.	3, 5	1, 3	Three-story brick	Loss, $150. Recall 5.07 a. m.; spontaneous combustion.
Sunday 24	485	.....	4.39	..... Annex.	.....	.....	.....	.....	.....	Loss, none. Recall 5.14 p. m.; false alarm; lightning.

RECORD OF FIRES AND ALARMS FOR THE YEAR ENDING DECEMBER 31, 1894.

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Monday 25	483	9.30	.....	412 Frederick avenue, Annex.	Chas. H. Brunier.	Slaughter house	Chem. 1	8	One-story brick.	Loss, $103.24. Recall 9.50 a.m.; heat from smoke-stack.
Monday 25	272	.....	11.23	1207 N. Wolfe st.	George W. Benson.	Dwelling.	6, 9	5	Three-story brick	Loss, $373.08. Recall 12.39 a. m., 26th; unknown.
Tuesday 26	251	7.10	.....	1020 E. Chase st.	Otto Moltz.	Dwelling.	.....	5	Three-story brick	Loss, $49.49. Recall 7.27 a.m.; explosion of gasoline stove.
Wedn'y 27	534	.....	6.42½	617 W. Hamburg st.	Marg't Eberline.	Dwelling.	10	.....	Two-story brick.	Loss, $72.54. Recall 6.52 p.m.; explosion of gasoline stove.
Thurs'y 28	357	8.00	.....	206 W. Biddle st.	T. Crowley.	Dwelling.	.....	4	Three-story brick	Loss, $65. Recall 8.29 a. m.; explosion of coal oil lamp.
Thurs'y 28	35	9.26	.....	.....	.....	.....	.....	.....	.....	Loss, none. Recall 10.02 a.m.; rekindling of previous fire.
Thurs'y 28	393	.....	6.07	226 Cedar avenue, Annex.	Thomas Williams	Dwelling.	.....	.....	Three-story brick	Loss, $10. Recall 6.20 p.m.; explosion of gasoline stove.
Thurs'y 28	356	.....	7.14	1802 Bolton street.	John Boyce.	Dwelling.	.....	4	Three-story brick	Loss, none. Recall 8.13 p.m.; burning chimney.
Friday 29	842	.....	9.00	.....	.....	.....	.....	.....	.....	Loss, none. Recall 9.11 p.m.; false alarm.
Automatic.										

Satur'y 30	218	.....	5.14½	Baltimore st. near Front.	James L. Kernan.	Monumental theatre and skating rink.	3	1	Three-story brick. One-story frame.	Loss, $5. Recall 5.31 p.m.; electric light wires.
Satur'y 30	312	.....	8.25	218 Park avenue.	Francis Kroeger.	Shoe store and dwelling.	.....	.....	Three-story brick	Loss, $8. Recall 8.32 p.m.; gas jet igniting curtain.
July.										
Sunday 1. 2d alarm	524	2.51 2.58	.....	8 and 10 W. Barre st	Geo. H. Weaver.	Wheelwright shop and tobac. storeh'se	1, 2, 3, 4, 10, 12, 15	1, 2, 6	One and two-story brick	Loss, $1,795.54. Recall 8.04 a.m.; unknown.
Sunday 1.	7	10.54	.....	407 W. 23d street. Annex.	John McComas.	Dwelling.	.....	.....	Three-story brick	Loss, none. Recall 11.04 a.m.; lighted match thrown on gasoline.
Sunday 1.	242	.....	3.55½	817 Willow street.	Charles Tydings.	Dwelling.	.....	.....	Two story brick.	Loss, $5. Recall 4.07 p.m.; fireworks.
Sunday 1.	183	.....	8.25	2801 Third avenue.	Aug. C. Meneke.	Confectionery store and dwlg.	11	.....	Two-story brick.	Loss, $201.50. Recall 8.33 p.m.; fireworks
Monday 2.	424	3.03	.....	771 Sarah Ann st. 773 " "	Mary Garrett. Mary Jackson.	Dwellings.	1, 8, 13	2	Two-story brick.	Loss, $443.02. Recall 4.44 a.m.; explosion of coal-oil lamp.
Monday 2.	462	7.24	.....	1917 Lemmon st.	Thomas Wilson.	Dwelling.	14	.....	Two-story brick.	Loss, $10.00. Recall 7.35 a.m.; explosion of gasoline stove.
Monday 2.	64	10.19	.....	1708 Riverside ave. 1710 " "	Joseph Kunkel. Joseph Roberts.	Dwellings.	12	6	Two-story brick.	Loss, $242.40. Recall 10.50 a.m.; explosion of gasoline stove
Monday 2.	184	.....	11.48	Abbott's Wharf, foot Burke street.	Gregory Mullin.	Tugboat E. W. Marts.	11, 16	3	Tug-boat.	Loss, $927.45. Recall 1.24 a.m. 3d; unknown.
Tuesday 3.	35	.....	8.56	864 Linden avenue.	J. E. Ethridge.	Dwelling.	1, 7, 13	4	Three-story brick	Loss, $406.77. Recall 11.24 p.m.; fireworks
Tuesday 3.	428	.....	9.00	1037 Gelston court.	Wm. Cornish.	Dwelling.	.....	.....	Two-story brick.	Loss, $17.50. Recall 9.11 p.m.; unknown

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Wed.	4 272	1.53	.....	1800 E. Biddle st.	Hugo P. Baschka	Saloon and dwelling.	6, 9	5	Three-story brick	Loss, $325.75. Recall 2.08 a.m.; unknown
Wedn'y	4 214	8.20	.....	800 Comet street.	Mrs. E. Ruidleist.	Dwelling.	3	1	Two-story and attic brick.	Loss, $20.00. Recall 8.52 a.m.; fireworks.
Wedn'y	4 543	10.37	.....	201 E. Cross street.	Oliver Thomas.	Dwelling.	6	.....	Two-story and attic brick.	Loss, $33.33. Recall 11.02 a.m.; fireworks.
Wedn'y	4 216	.....	1.44¾	1166 Low street.	L. Rosenthal.	Dwelling.	.....	1	Three-story brick	Loss, $25.00. Recall 1.54 p.m.; fireworks.
Wedn'y	4 373	.....	3.56½	1809½ Pennsylvania avenue.	Eila Crouse.	Confectionery store and dwelling.	13	.....	Three-story brick	Loss, $71.50. Recall 4.27p.m.; unknown.
Wedn'y	4 242	.....	4.52½	825 Harford ave.	James Garvey.	Dwelling.	.....	5	Three-story brick	Loss, $28.00. Recall 4.59 p.m.; fireworks.
Wedn'y	4 38	.....	8.31	705 Chappell street.	Hezikiah Davis.	Dwelling.	.....	.....	Two-story frame.	Loss, $12.00. Recall 8.40 p.m.; fireworks.
Wedn'y	4 159	.....	9.07	509 to 513 S. Broadway.	S. Kann, Sons & Co.	Dry goods store	.....	3	Six-story brick.	Loss, $297.70. Recall 9.26 p.m.; fireworks.
Wedn'y	4 485	.....	9.16	15 Stafford street, Annex.	Jacob Bach.	Dwelling.	.....	8	Two-story frame.	Loss, $7. Recall 9.49 p.m.; fireworks.
Wedn'y	4 243	.....	9.17	715 Ensor street.	John G. Pratt.	Dwelling.	.....	5	Two-story and attic brick.	Loss, $15.00. Recall 9.27 p.m.; fireworks.
Wedn'y	4 164	.....	9 25	2007 Gough street.	Daniel Atwell.	Dwelling.	11	.....	Three story brick	Loss, $13.50. Recall 9.37 p.m.; fireworks.

Wedn'y	4	432	.....	9.41	212 Parkin street.	Jos. Grontowiez.	Tenement.	10	.....	Four-story brick.	Loss, $92.40. Recall 9.52 p.m.; explosion of coal-oil lamp.
Wedn'y	4	143	.....	9.48	1113 E. Pratt street.	Abraham A. Buck	Tenement.	3, 6	2	Two-story and attic brick.	Loss, $250.04. Recall 10.26 p.m.; fireworks
Wedn'y	4	159	.....	10.10	612 S. Register st.	George Roeder.	Dwelling.	.....	3	Two-story brick.	Loss, $4. Recall 10.20 p.m.; fireworks.
Wedn'y	4	175	.....	10.46	249 S. Castle street.	William Carr.	Dwelling.	.....	3	Two-story brick.	Loss, $12. Recall 10.55 p.m.; fireworks.
Wedn'y	4	497	.....	11.04	1918 Payson street. Annex.	Harry Riddle.	Confectionery store and dwelling.	.....	.....	Two-story brick.	Loss, $29.50. Recall 11.20 p.m.; fireworks
Wedn'y	4	431	.....	11.29	833 Boyd street.	Louis Dobson.	Dwelling.	10	2	Two-story brick.	Loss, $13.74. Recall 11.45 p.m.; fireworks
Thurs'y	5	217	.....	2.21	641 Constitution st.	Patrick Daily.	Dwelling.	6	.....	Three-story brick	Loss, $55. Recall 2.28 p.m.; unknown.
Thurs'y	5	471	.....	3.41½	1816 W. Franklin street.	Arnold Schuster.	Dwelling.	8, 14	4	Two-story brick.	Loss, $208.78. Recall 4.16½ p.m.; unknown
Thurs'y	5	419	.....	10.05	313 N. Eutaw st.	Jane McGee.	Dwelling.	.....	2	Three-story brick	Loss, $5. Recall 10.10 p.m.; gas-jet igniting curtain.
Friday	6	159	.....	9.25	1633 Canton ave.	George Classon.	Dwelling.	.....	3	Two-story and attic brick.	Loss, $48. Recall 9.34 p.m.; explosion of coal oil lamp.
Satur'y	7	31	10.59	.....	325 N. Calvert st.	Calvert National Laundry.	Laundry.	.....	.....	Two-story brick.	Loss, none. Recall 11.03 a.m.; unknown
Satur'y	7	414	11.47	.....	Liberty and German streets.	A. Vogeler.	Wholesale drug store.	.....	.....	Five-story brick.	Loss, none. Recall 11.54 a.m.; balloon falling on roof.
Satur'y 7. 2d alarm		363	.....	12.27 12.29	614 N. Fremont st. 616 "	Unoccupied. "	Store. Store.	1, 7, 8, 10, 13, 15.	2, 4	Three-story brick " "	Loss, $7,582.57. Recall, 5.14 p. m.; sparks from tinner's fire-pot.
					618 "	Sarah McFarland	Dwelling.			" "	

RECORD OF FIRES AND ALARMS FOR THE YEAR ENDING DECEMBER 31, 1894.

Date.	Box.	Hour A.M.	Hour P.M.	Locality.	Occupant.	How Occupied.	Engines in Service.	H. & L. in Service.	Style of Buildings.	Remarks.
Monday 9.	157	.....	4.54	719 S. Bond street.	Thos. Finnerlan.	Tenement.	.....	3	Three-story brick	Loss, $64.10. Recall 5.04 p.m.; sparks from stove-pipe hole.
Monday 9.	521	.....	9.25	313 Hanover strest.	Salvatore Farda.	Tenement.	.....	.....	Three-story brick	Loss, $20.00. Recall 9 35 p.m.; explosion of gasoline lamp.
Tuesday 10	173	8.46	.....	715 Cannon street.	John Smith.	Dwelling.	.....	.....	Two-story brick.	Loss, $43 50. Recall 8.52 a.m.; explosion of gasoline stove.
Tuesday 10	146	.....	12.06	231 Albermarle st.	MarthaHammond	Dwelling.	.....	.....	Two story and attic brick.	Loss, none. Recall 12.14 p.m.; smoke from windows.
Tuesday 10 2d alarm	384	.....	2.31¼ 2.46	2427 Madison ave. 2429 " 2431 " 2433 " 2435 " Annex.	Donavin Hoffman E. E. Geigan. T. S. Sharretts. B. F. Mullikin. C. S. Bucklin.	Dwellings.	7, 8, 13, 18 Chem. 2. 3	2, 4	Three-story brick	Loss. $11,958.62. Recall 8.42 p.m.; gasoline poured near range.
Tuesday 10	6	.....	6.19	8 Light street.	B. Wilkins & Co.	Harness store.	2. 3, 4, 15.	1, 5	Four-story brick.	Loss. $6,764 00. Recall 10.36 p.m.; unknown.
Tuesday 10	244	.....	9.45	1001 Valley street.	John Glenn.	Dwelling.	.....	.....	Three-story brick	Loss, none. Recall 9.53 p.m.; balloon falling on roof.

Wed.	11	43	1035½	.....	15 Penn street.	Adonis Vender.	Dwelling.	....	.....	Two story and attic brick.	Loss, $5.00. Recall 10.44 a.m.; exposion of gasoline stove.
Wedn'y	11	422	11.09	.....	309 W. Fayette st.	Unoccupied.	Saloon and dwelling.	1	2	Three-story and attic brick.	Loss, $20.00. Recall 11.17 a. m.; sparks from stack.
Wedn'y	11	25	.....	4.05½	521 E. Eager street.	Unoccupied.	Dwelling.	....	5	Three-story brick	Loss, $40.00. Recall 4.13 p.m.; unknown
Thurs'y	12	317	.....	4.56	526 Hargrove alley.	James Lloyd.	Tenement.	4, 7	4	Three-story brick	Loss, $85.00. Recall 5.05 p. m.; sparks from stack.
Thurs'y	12	13	.....	6.08	204 President street.	James Bates.	Iron Foundry.	3	1, 3	Two-story brick.	Loss, $237.00. Recall 6.47½ p. m.; sparks from cupola.
Thurs'y	12	531	.....	6.31	323 Ringgold street.	William Long.	Dwelling.	....	.....	Two-story brick.	Loss, $5.00. Recall 6.36 p. m.; explosion of gasoline stove.
Thurs'y	12	635	.....	9.25	Garrett avenue and Beason street.	Baltimore tin plate factory.	Tin Mill.	....	.....	One-story brick.	Loss, $25.00. Recall 10.10 p. m.; overheated furnace.
Friday	13	271	1.20	.....	927 N. Chapel st.	Ashland Assembly	Club House.	6, 9	5	Two-story brick.	Loss, $206.10. Recall 1.41 a.m.; unknown
Friday	13	212	.....	12.33	6 Harrison street.	Ignatius Weisberg	Tailor shop and tenement.	....	1	Four-story brick.	Loss, $40.00. Recall 12.40 p. m.; explosion of gasoline stove,
Satur'y	14	13	8.00	.....	E. Falls avenue and Stiles street.	Baltimore Waste Co.	Waste factory	....	.....	Three-story brick	Loss, $20.00. Recall 8.12 a. m.; friction of machinery.
Satur'y	14	362	8.24	.....	735 W. Franklin st.	Chas. Stansbury.	Dwelling.	....	4	Three-story brick	Loss, $55.00. Recall 8.34 a.m.; explosion of gasoline stove.

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DATE.	BOX.	HOUR A.M.	HOUR P.M.	LOCALITY.	OCCUPANT.	HOW OCCUPIED.	ENGINES IN SERVICE.	H. & L. IN SERVICE.	STYLE OF BUILDINGS.	REMARKS.
Satur'y 14	542	.....	12.39	1132 Warner street.	John Tromer.	Dwelling.	....	.....	Two-story brick.	Loss, $12.50. Recall 12.48 p. m.; children playing with matches.
Satur'y 14	392	.....	3.59	813 Remington ave. Annex.	Alfred Wilson.	Dwelling.	....	9	Three-story brick	Loss, $18.75. Recall 4.41 p.m.; unknown.
Satur'y 14	64	.....	5.12	1709 Light street.	William Weaver.	Dwelling.	....	.....	Three-story brick	Loss, none. Recall 5.18 p. m.; explosion of gasoline stove.
Satur'y 14	7	.....	11.13	20th st. and R. R. tracks, Annex.	Balto. and Lehigh Railroad Co.	Box car.	18 Chem. 3	7	Car loaded with tan bark.	Loss, $65.00 Recall 12.47 a. m., 15th; incendiary.
Monday 16	214	8.17	.....	224 N. Exeter st.	Abraham Pollock	Dwelling.	3, 6	1	Three-story brick	Loss, $419.34. Recall 8.47 a.m.; unknown.
Tuesday 17	61	6.54	.....	104 E. Hughes st.	Marion Craig.	Grocery store and dwelling	2	6	Two-story brick.	Loss, $305.20. Recall 7.31 a.m.; unknown.
Tuesday 17	616	.....	2.06½	Foot of Donaldson street.	Winan's estate.	Wharf.	12	6	Wharf.	Loss, $20, Recall 3.04 p.m.; children playing with matches.
Wedn'y 18 2d alarm.	638	.....	5.48 5.57½	Fort ave., near Fort McHenry.	Wm. F. Malster.	Machine shop and foundry.	2, 5, 10, 11 12, 16	3, 6	One-story frame.	Loss, $35,761.63. Recall 12.40 a. m.; overheated boiler.
Thurs'y 19	365	.....	5.11	923 Pennsylvania avenue.	Fred'k Maennel.	Confectionery store and dwelling.	7	4	Three-story brick	Loss, $197.50. Recall 5.47 p. m.; unknown.

Friday	20	146	.....	10.38	205 Slemmer's alley 207 " "	Abraham Judalediwitch. John Hess.	Dwellings.	3, 4	1, 3	Two-story and attic brick.	Loss, $138.14. Recall 11.44 p. m.; upsetting of lighted candle.
Satur'y	21	28	.....	5 11	1826 N. Collington avenue.	Vincent Vasiling.	Dwelling.	9 Chem. 6	5	Two-story brick.	Loss, $479.45. Recall 5.39 p.m.; unknown.
Sunday	22	526	6.47	.....	304 Hanover street.	Louis Shandels.	Tenement.	2	6	Four-story brick.	Loss, $76.71. Recall 6.54 a. m.; explosion of gasoline stove.
Sunday	22	427	10.05	.....	613 W. Lexington street.	Atlantic & Pacific Tea Co. and others.	Tea store and dwelling.	....	2	Three-story brick	Loss, none. Recall 10.11 a.m.; electric light wire.
Sunday	22	68	.....	10.38	Foot of Riverside avenue.	B. & O. R. R.	Electric light works.	2, 12	6	One-story brick.	Loss, $400. Recall 1.42 a.m., 23d; electric light wire.
Monday	23	161	2.53	.....	1818 Eastern ave. 1820 " " 1822 " "	Edward Signor. Moses J. Sachs. Charles Eckerson	Dwellings.	3, 5, 11	3	Three-story brick	Loss, $479. Recall 4.21 a.m.; explosion of coal oil lamp.
Monday	23	412	.....	11.15	6 Hanover street.	Silverman & Lobe	Notion store.	....	2	Four-story brick and iron.	Loss, none. Recall 11.18 p.m.; electric light wire.
Wedn'y	25	394	2.50	.....	Cedar & Hampden avenues. Annex	George Ross.	Grocery store and dwelling	7, 18 Chem. 2, 3, 4, 7	9	Two-story brick and frame.	Loss, $1,844.29. Recall 7.13 a. m.; unknown.
Wedn'y	25	427	.....	9.24	Lexington & Greene streets.	C. D. Kenny.	Tea store and dwelling.	....	2	Four-story brick.	Loss, none. Recall 9.33 p. m.; electric light wire.
Thurs'y	26	56	.....	2.28	117, 119 and 121 W. Cross street.	Frederick Shultz.	Box factory.	2	6	Two-story brick.	Loss, $20.00. Recall 3.54 p. m.; overheated boiler.
Thurs'y	26	155	.....	4.40	1431 Gough street.	Benjamin Gerber.	Tenement.	5	3	Two-story and attic brick.	Loss, $35.00. Recall 4.47 p.m.; explosion of gasoline stove.

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Thurs'y 26	14	.....	5.42	815 E. Pratt street.	Jabob Schlencker	Dwelling.	3	1	Three-story brick	Loss, $40.00. Recall 6.09 p.m.; explosion of gasoline stove.
Thurs'y 26	454	.....	10.54	606 N. Arlington avenue.	John Hammond.	Dwelling.	8	.....	Three-story brick	Loss, $5.00. Recall 11.04½ p m.; lighted match thrown on shed.
Friday 27	15	8.13	.....	429 S. Bond street.	Gussie Kuntz.	Tenement.	....	3	Three-story brick	Loss, $53.94. Recall 8.32 a.m.; explosion of gasoline stove.
Satur'y 28	234	5.07	.....	217 N. Chapel st.	Frank Dauser.	Dwelling.	....	3	Two-story brick.	Loss, $100.19. Recall 5.25 a. m.; unknown.
Satur'y 28	18	9.12	.....	2731 Boston street.	J. S. Young & Co	Bark extract works.	11	3	Two-story brick.	Loss, $50.00. Recall 10.12 a. m.; sparks from stack.
Sunday 29	352	1.15½	.....	1509 Park avenue. 1511 " "	W. B. Crowther. B. Howard Haman.	Dwellings.	7, 8, 13 Chem. 2	4	Three-story brick	Loss, $2,139.72. Recall 6,17 a.m.; unknown.
August.										
Thurs'y 2	471	.....	9.05	500 N. Bruce street.	Robert Heath.	Dwelling.	....	.....	Two-story brick.	Loss, $21.00. Recall 9.20 p.m.; explosion of gasoline stove.
Friday 3	397	.....	7.55½	Merryman's lane, near Cedar ave., Annex.	Unoccupied.	Dwelling.	Chem. 3, 7	9	Three-story frame	Loss, $50.00. Recall 9.47 p.m.; incendiary.

Friday	3	546	.....	8.10	926 Plum alley.	Fredk. L. Ritter.	Cooper shop.	.....	.....	Two-story brick	Loss, none. Recall 8.21 p.m.; light from windows.
Friday	3	397	.....	9.27	..... Annex.	.....	.....	.....	.....	.....	Loss, none. Recall 9.47 p.m.; false alarm.
Satur'y	4	262	.....	11.47	1053 N. Gay street. 1055 " " "	G. Bittroff & Bro. Franz Schuman.	Basket factory. Bakery and dwelling.	6, 9 Chem. 6	5	Three-story brick	Loss, $801.00. Recall 1.30 a.m. 5th; unknown.
Sunday	5	42	5.38	.....	419 W. Fayette st.	Geo. W. Krager.	Dwelling.	1	2	Three-story brick	Loss, none. Recall 5.50 a.m.; burning chimney.
Sunday	5	335	.....	1242¼	1312 Eutaw place.	Eugene Levering.	Stable.	7	4	Two-story brick.	Loss, $35.00. Recall 1.44 p.m.; unknown.
Sunday	5	397	.....	8.25	Merryman's lane, near Cedar ave., Annex.	Unoccupied.	Dwelling.	18 Chem. 2,3,7	9	Three-story frame	Loss, $250.00. Recall 11.33 p.m.; incendiary.
Monday	6	452	9.26	.....	1413 W. Lexington street.	Frank Walbrain.	Dwelling.	.....	.....	Three-story brick	Loss, $10.00. Recall 9.33 a.m.; explosion of coal-oil stove.
Monday	6	214	.....	3.23	119 N. Exeter st.	John J. Grasser.	Dwelling.	3, 4, 6	1	Three-story brick	Loss, $268.14. Recall 4.09½ p.m.; explosion of coal-oil stove.
Monday	6	284	.....	6.34	Montibello ave. and Madison street, Annex.	D. W. Donald.	Dwelling.	.....	.....	Two-story frame.	Loss, $10.00. Recall 6.51 p.m.; upsetting of coal-oil stove.
Monday	6.	214	.....	8.01	109 Rogers ave.	AliceMontgomery	Dwelling.	.....	.....	Three-story brick	Loss, none. Recall 8.08 p.m.; lighted coal oil lamp thrown at woman.
Tuesday	7.	242	.....	5.32	Truxton and Grove streets.	Unoccupied.	Dwelling.	.....	5	Two-story brick.	Loss, $65.00. Recall 5.42 p.m.; unknown.

RECORD OF FIRES AND ALARMS FOR THE YEAR ENDING DECEMBER 31, 1894.

Date.	Box.	Hour A.M.	Hour P.M.	Locality.	Occupant.	How Occupied.	Engines in Service.	H. & L. in Service.	Style of Buildings.	Remarks.
Tuesday 7.	146	.....	6.46½	Stiles street and E Falls ave.	Balto. Waste Co.	Waste factory.	3, 4, 5, 6.	1, 3	Three-story brick	Loss, $100.00. Recall 7.50 p.m.; spontaneous combustion.
Wed. 8.	262	3.40	.....	1640 E. Eager st.	Henry Feike.	Dry goods store and dwelling.	6, 9.	5	Three-story brick	Loss, $947.33. Recall 4.30 a.m.; unknown.
Wed. 8.	292	.....	8.12	Old York Road and Fairoak ave. Annex.	C. M. Ray.	Dwelling.	.....	.....	Two-story frame.	Loss, $7.25. Recall 8.25 p.m.; children playing with matches.
Thurs'y 9.	383	.....	11.29	Brunt and Gold sts.	Wm. C. Waters.	Grocery store and welling.	.....	.....	Three-story brick	Loss, none. Recall 11.41½ p.m.; overheated oven.
Satur'y 11.	387	7.58	.....	1570 Richland st. Annex.	E. S. Dombhardt	Dwelling.	.....	.....	Two-story brick.	Loss, $24.00. Recall 8.15 a.m.; explosion of gasoline stove.
Satur'y 11.	526	8.59	.....	301 S. Sharp street.	Hazimin Riggistis	Tenement.	2	2	Three-story and attic brick.	Loss, $25.00. Recall 9.06 a.m.; explosion of gasoline stove.
Satur'y 11.	299	.....	10.16	Jefferson place and 21st street. Annex.	L. B. McCabe & Bro.	Stable.	7. 18. Chem. 3, 4	5, 7	One-story brick and frame.	Loss, $3,657.00. Recall 1.41 a.m., 12th; unknown.
Satur'y 11.	13	.....	1111½	202, 204 President st	James Bates.	Iron foundry.	3	1	One-story-brick.	Loss, $25.00. Recall 11.25 p.m.; heat from cupola.
Tuesday 14	418	.....	2.57½	200, 202 N. Eutaw st	C. D. Kenny.	Tea store.	.....	2	Four-story brick.	Loss. $173.23. Recall 3.07½ p.m.; electric light wire,

Thurs'y 16	264	.....	5.39	1611 E. Madison st.	Mrs. Ella Wallbach.	Dwelling.	6, 9	5	Two-story and attic brick.	Loss, $147.07. Recall 6.26 p.m.; unknown.
Friday 17	31	.....	6.39	307 to 311 St. Paul street.	Schneider & Fuchs.	Picture frame factory.	1, 2, 3, 4, 6, 7, 9	1, 2	Four and five-story brick.	Loss, $17,713.98. Recall 8.15 p. m.; unknown.
2d alarm.			6.45½				10, 15	4, 5		
3d alarm.			6.48							
Satur'y 18	54	.....	7.05	137 W. Hill street.	Eva Conrad.	Dwelling.	2	6	Two-story and attic brick.	Loss, $31.50. Recall 7.20 a. m.; explosion gasoline stove.
Satur'y 18	497	.....	7	1919 Payson street. Annex.	H. C. Kruse.	Grocery store and dwelling	13, 14 Chem. 2	8	Two-story brick.	Loss, $877.50. Recall 8.45 p. m.; lighted match thrown in oil
Sunday 19	147	8.45	.....	1300 Canton ave.	Kimball, Tyler & Company.	Barrel factory.	3	3	Two-story brick.	Loss, $60.00. Recall 9.28½ a. m.; overheated furnace.
Monday 20	428	11.58	.....	127 N. Schroeder st.	Charles Ledley.	Dwelling.	.....	8	Two-story and attic brick.	Loss, $5. Recall 12.15 p. m.; explosion of gasoline stove.
Tuesd'y 21	39	12.12	.....	2632 Pennsylvania avenue.	Gustav Ruppenberger.	Sheep pen and stable.	7, 13, 18 Chem. 2	4	Two-story frame.	Loss, $799.66. Recall 2.36 a.m.; unknown.
Tuesd'y 21	51	.....	10.13	106 E. Pratt street.	Schley & Sons.	Produce warehouse.	2, 3, 4 Chem. 15	1, 2	Four-story brick.	Loss, $953.55. Recall 11.20 p.m.; unknown
Wedn'y 22	272	.....	3.14½	1938 E. Chase st.	Henry Rulkuter.	Stable.	.....	.....	One-story frame.	Loss, none. Racall 3.27 p.m.; unknown.
Thurs'y 23	397	.....	8.36½	Merryman's lane, near Cedar ave., Annex.	Unoccupied.	Dwelling.	18 Chem. 2, 3 7	9	Three-story frame	Loss, $300.00 Recall 11.17 p. m.; set on fire by boys.
Thurs'y 23	398	.....	8.50¾	Annex.	.....	.....	.....	.....	....	Loss, none. Recall 9.11 p. m.; box pulled for preceding fire.
Satur'y 25	155	.....	1048½	301 S. Caroline st.	Jacob Gilman.	Grocery store and dwelling	.....	3	Three-story brick	Loss, none. Recall 10.53 p. m.; lighted candle near gasoline

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DATE.	BOX.	HOUR A.M.	HOUR P.M.	LOCALITY.	OCCUPANT.	HOW OCCUPIED.	ENGINES IN SERVICE.	H. & L. IN SERVICE.	STYLE OF BUILDINGS.	REMARKS.
Sunday 26	161	2.35	.....	722 S. Durham st.	Joseph Shultz.	Dwelling.	5	3	Two-story and attic frame.	Loss, $77.65. Recall 3.10 a. m.; unknown
Monday 27	436	7.58½	.....	436 W. Pratt street.	Joseph Berry.	Saloon and dwelling.	15 Chem. 15	2	Two-story brick.	Loss, $86.82. Recall 8.07 a.m.; explosion of gasoline stove.
Monday 27 2d alarm.	123	.....	11.19 11.31	213 Smith's wharf.	Stonebraker Chemical Co.	Chemical works	2, 3, 4, 6, 15, 16	2, 3, 5	Four-story brick.	Loss, $6,828.79. Recall 2.57 a.m. 28th.; spontaneous combustion.
Tuesd'y 28	151	.....	8.04	1428 E. Lombard st.	Joseph Berlein.	Dwelling.	....	.....	Two-story and attic brick.	Loss, none. Recall 8.11 p. m.; explosion of coal-oil lamp
Tuesd'y 28	38	.....	10.40	2212 Pennsylvania avenue.	John Ackerman.	Dwelling.	13	4	Two-story brick.	Loss, $68.00. Recall 11.15 p. m.; unknown.
Wedn'y 29	397	.....	8.58	Merryman's lane, near Cedar ave., Annex.	Unoccupied.	Dwelling.	Chem. 2, 3	9	Three-story frame	Loss, $50.00. Recall 10.20½ p. m.; incendiary.
Wedn'y 29	214	.....	9.02	218 N. Exeter st.	Joseph Lichterstein.	Dwelling.	....	.....	Three-story brick	Loss, None. Recall 9.07 p.m.; explosion of jug of gasoline.
Thurs'y 30	318	.....	6.22	322 N. Charles st.	Joseph E. Harrison.	Decorative supply store.	1	2	Three-story brick	Loss, $15.00. Recall 6.34 p. m.; spontaneous combustion
Friday 31	53	.....	8.55	1100 Bowen st.	Christian Dederer	Bakery and dwelling.	....	.....	Two-story brick.	Loss, none. Recall 9.04 p. m.; burning chimney.

Friday	31	392	.....	11.56	Foot of 28th street, Annex.	Unoccupied.	Shed.	18	9	One-story frame.	Loss, $125.00. Recall 12.57 a. m.; incendiary.
September.											
Satur'y	1	24	1.20	.....	455 and 457 N. Gay street.	Henrietta Kleinebst.	Fur store and dwelling.	6	1	Three-story brick	Loss, $670.70. Recall 1.36 a.m.; unknown.
Sunday	2	397	.....	11.41	Merryman's lane, near Cedar ave., Annex.	Unoccupied.	Dwelling.	Chem. 2,3,7	9	Three-story frame	Loss, $25.00. Recall 3.40 a.m. 3d.; incendiary.
Monday	3	213	.....	8.00	243 and 245 N. High street.	Louis Rosenheim, Sarah Vogel.	Dwellings.	6	1	Two-story and attic brick.	Loss, $353.41. Recall 8.13 p.m.; explosion of gas stove.
Monday	3	31	.....	8.58	Pleasant and Calvert streets.	Boy's Home Society.	Boy's Home.	.....	.....	Four-story brick.	Loss, $3. Recall 9.01 p.m.; gas jet igniting curtain.
Tuesday	4	635	.....	1.08	.....	.....	.....	.....	.....	.....	Loss, none. Recall 1.30 p.m.; false alarm.
Tuesday	4	418	.....	7.58½	304 N. Howard st.	Wm. H. Tuttle.	Vest factory.	.....	.....	Four-story brick.	Loss, None. Recall 8.05 p.m.; overheated gas stove.
Wedn'y	5	56	6.15	.....	153 W. Henrietta street.	Christian Krauss.	Grocery store and dwelling	2	6	Three-story brick	Loss, $137.45. Recall 6.47 a.m.; explosion of gasoline stove.
Wedn'y 2d alarm.	5	154	.....	2.25½ 2.36	1325 Philpot street.	Baltimore Pulverizing Company.	Pulverizing mill.	3, 5, 11, 16	3	Two-story brick and frame.	Loss, $2,797.79. Recall 5.09 p.m.; friction of machinery.
Wedn'y	5	397	.....	8.05	Merryman's lane, near Cedar ave., Annex.	Unoccupied.	Dwelling.	Chem. 7	.....	Three-story frame	Loss, $25.00. Recall 8.55 p.m.; incendiary.

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Date.	Box.	Hour A.M.	Hour P.M.	Locality.	Occupant.	How Occupied.	Engines in Service.	H. & L. in Service.	Style of Buildings.	Remarks.
Wedn'y 5	142	.....	10.35	332 S. High street.	Gerson Miller.	Grocery store and tenement	....	.....	Two-story and attic brick.	Loss, none. Recall 10.44 p.m.; upsetting of coal-oil lamp.
Thurs'y 6	391	1.30	.....	2608 Pennsylvania avenue, Annex.	Gustav Ruppersberger.	Stable.	Chem. 2	.....	One-story frame.	Loss, $21.00. Recall 2 a.m.; unknown.
Satur'y 8	526	1.28	.....	210 S. Sharp street.	Charles Adams.	Tenement.	....	.. ..	Three-story and attic brick.	Loss, none. Recall 1.57 a.m.; upsetting of coal oil lamp.
Satur'y 8	51	9.24	.....	119 S. Charles st.	George Eiler.	Saloon and dwelling.	.....	.. ...	Three-story brick	Loss, $16.50. Recall 9.32 a.m.; explosion of gasoline stove.
Sunday 9	5	1.55	.....	24 Light street.	Gilpin, Langdon & Co.	Wholesale drug house.	1, 2, 3, 4, 15 Chem. 15	1, 2	Five-story brick.	Loss, $13,663.21. Recall 9.45 a.m.; unknown.
Monday 10	332	11.04	.....	410 Orchard street.	Elizabeth Palmer	Dwelling.	....	.....	Three-story brick	Loss, none. Recall 11.13 a.m.; smoking out mosquitoes.
Monday 10	531	.....	9.45	725 Columbia av.	Dr. Geo. Graham.	Stable.	10 Chem. 15	2	Two-story brick.	Loss, $116.81. Recall 9.55 p. m.; unknown.
Tuesd'y 11	391	12.31	.....	255 Pennsylvania av Annex.	Peter Kell.	Stable.	Chem. 2	.....	Two-story brick.	Loss, $30.00. Recall 12.51½ a. m.; unknown.
Tuesd'y 11	254	1.07	.....	303 Three-and-a-half st., Annex.	James O'Rourke.	Saloon and dwelling.	....	5	Two-story brick.	Loss, $90.00. Recall 1.45 a. m.; unknown.

Tuesd'y 11 2d alarm.	526	.....	6.29 6.33½	305 S. Sharp st.	S. M. Robinson & Son.	Embroidery works.	1, 2, 4, 7, 10 12, 15	1, 2 6	Four-story brick.	Loss, $8,440.23. Recall 9.08 p. m.; unknown.
Tuesd'y 11	436	.....	1110½	Paca and German st	M. Pachholder.	Cigarette factory.	12, 15	2	Four-story brick.	Loss, $1,353.00. Recall 1.20 a.m., 12th; unknown.
Wedn'y 12	476	11.19	.....	527 Mosher st., ext.	Edward Ramsay.	Dwelling and stable.	13	.....	Two-story frame.	Loss, $1.00. Recall 11.38 a. m.; unknown.
Thurs'y 13	61	2.40½	.....	721 Grindall court.	James Harris.	Dwelling.	2	6	Two-story and attic brick.	Loss, $115. Recall 2.32 a. m.; spontaneous combustion.
Thurs'y 13 2d alarm. 3d alarm.	144	3.10 3.19 3.40	.....	802 to 808 Fawn st.	Reliable Furniture Company.	Furniture factory.	1,2,3,5,6,7 9,11,15,w.t. Chem 6.	1, 2 3, 5	Five-story brick.	Loss, $8,868.35. Recall 10.00 a. m.; overheated boiler.
Friday 14	238	.....	8.34	913 N. Dallas st.	Emma Rinehart	Dwelling.	9	5	Two-story brick.	Loss, $77.19. Recall 8.50 p.m.; unknown
Satur'y 15	128	7.32	.....	427 E. Lombard st.	Western Union Telegraph Co.	Telegraphoffice	....	.....	Four-story brick.	Loss, $55.00. Recall 7.40 a.m.; electric light wire.
Satur'y 15	457	.....	7.24½	1129 Woodyear st.	Henry Hafer.	Dwelling.	13	.....	Two-story brick.	Loss, $65.00. Recall 7.52½ p.m.; explosion of gasoline stove
Satur'y 15	353	.....	11.02	N. C. R. R. track near Boundary av	N. C. R. R.	Box cars.	18, Chem. 3	4	Box cars loaded with hay.	Loss, $325.00. Recall 1.40 a.m.; 16th; spontaneous combustion.
Sunday 16	6	12.42	.....	200 E. Pratt st.	H. Ford.	Clothing and notion store.	2, 4	1, 2	Four-story brick.	Loss, $395.00. Recall 12.52a.m.; unknown
Wedn'y 19	575	9.19	.....	Lombard and Liberty streets.	Hanline Bros.	Paint store.	Chem. 15.	.....	Four-story brick.	Loss, none. Recall 9.24 a.m.; glue boiling over.

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Wedn'y 19	213	.....	10.12	200 N. High street.	Harry Werner.	Dwelling.	.....	.....	Three-story brick	Loss, $15 00. Recall 10.22 p.m.; lighted candle dropped on bed.
Thurs'y 20	65	.....	4.06	1731 S. Charles st.	Frank Hamilton. John Durham.	Dwelling.	12	6	Two-story frame.	Loss, $70.00. Recall 4.36 p.m.; defective flue.
Friday 21	347	1.50	.....	Charles and Eager streets.	Maryland Club.	Club-house.	....	.....	Three-story stone.	Loss, $15.00. Recall 2.01 a.m.; grease boiling over.
Friday 21	159	3.02	.....	1707 Canton avenue	Wm. Horr.	Saloon and dwelling.	11	3	Three-story brick	Loss, $476.06. Recall 4.27½ a.m.; defective flue.
Friday 21	464	.....	4.48½	248 S. Stricker st.	J. H. Russell.	Dwelling.	.. ..	.....	Three-story brick	Loss, $25. Recall 5 p.m; explosion of coal oil stove.
Friday 21	361	.....	7.36	313 Pearl street.	John Dulaney.	Dwelling.	....	.....	Two-story and attic brick.	Loss, $15. Recall 7.42 p.m.; explosion of coal oil lamp.
Satur'y 22	262	.....	5.33¼	1026 N. Gay street.	Anton Chlau.	Dwelling.	....	5	Three-story brick	Loss, $15. Recall 5.41 p.m.; explosion of gasoline stove.
Sunday 23	44	.....	3.39½	318 E. Baltimore st.	James Brown.	Restaurant.	3, 4, 6, Ch. 15	1	Three-story brick	Loss, $726.95. Recall 4.19 p.m.; unknown
Sunday 23	335	.....	8.38	1412 Eutaw place.	Sarah Randolph.	Dwelling.	7, 8, 13	4	Three-story brick	Loss, $697. Recall 10.35 p.m.; unkn'wn

Monday 24	523	7.08½	.....	Little Paca street and West alley.	Unoccupied.	Factory.	Chem. 15	2	Three-story brick	Loss, $20. Recall 7.22 a.m.; unknown.
Monday 24	612	11.46	.....	204 Warren avenue.	Winfield S. Cahill	Dwelling.	2, 12	6	Two-story brick.	Loss, $1,081.21. Recall 1.04 p.m.; unknown.
Monday 24	27	.....	2.47¾	907 N. Broadway.	Thos. J. Pritchett	Stable.	9	3	One-story frame.	Loss, $63.30. Recall 2.56 p.m.; unknown
Monday 24	562	.....	6.41½	34 E. Fort avenue.	George W. Parks George E. Floyd.	Stable, Oil storehouse.	2, 10, 12	6	Two-story frame.	Loss, $1,923.40. Recall 11.31 p. m.; lighted lamp near gasoline.
Tuesday 25	236	.....	1.42	25 N. Collington av	H. G. Boyd.	Dwelling.	.....	.....	Three-story brick	Loss, $5. Recall 1.48 p.m.; unknown.
Tuesday 25	349	.....	8.14	22 and 24 E. 25th street, Annex.	B. S. Dodson. B. F. Bennett.	Stables.	18 Chem. 3, 4.	5, 7	Two-story frame.	Loss, $440.22. Recall 9.50 p.m.; unknown
Tuesday 25	523	.....	1038½	511 to 521 W. Conway street.	S. B. Sexton & Sons.	Iron foundry.	....	2	Four-story brick.	Loss, $50.70. Recall 10.41 p.m.; hot castings.
Wedn'y 26	267	1.02½	.....	28 and 30 Harford avenue.	William C. Reed.	Stable and smokehouse.	9, 18 Chem. 5, 6.	5	One-story frame. Two-story brick.	Loss, $525.50. Recall 3.03 a.m.; unknown
Wedn'y 26	176	8.10	.....	420 N. Patterson Park avenue.	George Freeburger.	Dwelling.	9	.....	Two-story brick.	Loss, $2.50. Recall 8.17 a.m.; unknown
Wedn'y 26	143	.....	2.49	1012 Stiles street.	Unoccupied.	Dwelling.	3, 5	3	Two-story brick.	Loss, $106.50. Recall 3.26 p. m.; sparks from chimney.
Wedn'y 26	542	.....	7.24	1122 Hanover st.	Jacob Heath.	Grocery store and dwelling	2 Chem. 15	.....	Two-story and attic brick.	Loss, $90.00. Recall 9.42 p. m.; lighted lamp near gasoline.
Satur'y 29	229	12.35	.....	123 N. Chapel st.	Agnes Creighton.	Dwelling.	5	3	Three-story brick	Loss, $192.30. Recall 1.26 a.m.; unknown
Sunday 30	39	1216½	.....	2424 Pennsylvania	D. C. Walker.	Carriage house and hay loft.	7, 8, 13 Chem. 2	4	Two-story frame.	Loss, $433.57. Recall 1.40 a. m.; incendiary.

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Sunday 30	349	1.30	.....	2 E. 25th street. Annex.	Unoccupied.	Dwelling.	7 Chem. 3, 4	5	Three-story brick	Loss, $200. Recall 2.26 a.m.; unknown
October.										
Monday 1	546	2.15	.....	923 Plum alley.	Solomon Williams.	Stable.	2	6	Two-story brick.	Loss, $402.87. Recall 4.12 a.m.; unknown
Monday 1	635	5.30	.....	1414 Cooksie st.	Jacob Stabler.	Grocery store and dwelling	12	6	Three-story brick	Loss, $825.00. Recall 6.58 a.m.; dropping coal oil lamp.
Monday 1	128	.....	10.30	62 Centre Market Space.	J. C. Rosenthal.	Restaurant and dwelling.	.....	1	Three-story brick	Loss, none. Recall 10.37 p.m.; electric light wire.
Tuesday 2	262	6.47	.....	1600 Cemetery lane.	Thos. A. Hammond.	Bakery and dwelling.	.....	5	Two-story brick.	Loss, none. Recall 6.57 a.m.; hot coals from oven.
Wedn'y 3	65	7.05	.....	1819 Hanover st.	John Walter.	Dwelling.	12	6	Two-story brick.	Loss, $142.15. Recall 8.51 a.m.; overheated stove.
Wedn'y 3	517	.....	1.55½	Bayard and Russell streets.	Swindell Bros.	Glass factory.	.....	.....	One-story brick and frame.	Loss, $20.00. Recall 2.15 p.m.; sparks from chimney.
Thurs'y 4	51	9.36	.....	15 E. Pratt street.	Lerch Bros.	Harness factory	2, 4, 15	1, 2	Four-story brick	Loss, $1,804.09. Recall 12.00½ p.m.; unknown.
Friday 5	324	.....	7.42½	1013 McCulloh st.	Mrs. Mary Crochel	Dwelling.	.....	....	Four-story brick	Loss, $20.00. Recall 7.51 p.m.; gas jet igniting curtain.

Sunday 7	532	7.08½	.....	627 W. Lee street.	Wm. J. Preston.	Dwelling.	2	.....	Two-story brick.	Loss, $50.80. Recall 8.08 a.m.; explosion of can of gasoline.
Monday 8.	298	.....	5.55	York Road near Boundary ave. Annex.	Franklin Davis.	Dwelling.	....	7	Two-story and attic frame.	Loss, none. Recall 6.31 p.m. ; burning chimney.
Thurs'y 11	64	2.44	.....	1714 Byrd st.	Clement Bingle.	Stable.	12	6	One-story frame.	Loss, $242.80. Recall 3.32 a.m.; unknown
Thurs'y 11	312	7.01	.....	237 Park avenue.	Frank S. Strawbridge.	Office building.	1	2	Three-story brick	Loss, $45.00. Recall 7.11 a. m.; overheated furnace-pipe
Thurs'y 11	14	.....	12.16	922 E. Pratt street.	Moses Ades.	Tenement.	3, 5	1, 3	Three-story brick	Loss, $725.00. Recall 1.14 p. m.; explosion of coal oil stove.
Friday 12	321	1153½	.....	514 Pennsylvania av	Geo. W. Peirson.	Second hand store.	1	4	Three-story and attic brick.	Loss, $55.00. Recall 12.14 p. m.; sparks from chimney.
Satur'y 13	152	.....	2.50	208 S. Broadway.	Francis Denny.	Undertaking establishment	....	3	Three-story brick	Loss, none. Recall 2 57 p. m.; burning chimney.
Sunday 14	239	.....	9.18	E. Fayette street W. of Cannon st.	Geo. Schmeiser.	Stable.	9 Chem. 6	3	One-story frame.	Loss, 581.72. Recall 1.40 p.m.; unknown
Monday 15	214	.....	7.32½	1111 E. Fayette st.	L. S. Goodman.	Dwelling.	....	.....	Two-story and attic brick.	Loss, $10.00. Recall 7.37½ p. m.; lighted Chinese lantern.
Tuesday 16	34	5.54	.....	916 N. Charles st.	Baltimore Club.	Club house.	....	.....	Three-story brick	Loss, $10.00. Recall 6.01 a. m.; hot ashes against woodwork.
Tuesday 16	34	10.07	.....	2 W. Biddle street.	T. D. Whistler.	Dwelling.	....	.....	Three-story and attic brick.	Loss, none. Recall 10.21 a.m.; smoking furnace.

RECORD OF FIRES AND ALARMS FOR THE YEAR ENDING DECEMBER 31, 1894.

Date.	Box.	Hour A.M.	Hour P.M.	Locality.	Occupant.	How Occupied.	Engines in Service.	H. & L. in Service.	Style of Buildings.	Remarks.
Tuesday 16	13	.....	8.57	219 McElderry's wharf.	H. J. Clark.	Grain store-house.	2, 3, 4, 5, 6, 9 15, 16	1,2,3,5	Four-story brick.	Loss, 2,752.37. Recall 11.40 p. m.; unknown.
2d alarm	....	.....	9.00							
Wedn'y 17	65	11.30	.....	1700 Hanover street	Fredk. Albach.	Dwellings.	2, 10, 12	6	Three-story brick	Loss, $1,995.37. Recall 2.40 p. m.; pot of tar boiling over.
				1702 Hanover street	William Busch.					
				1704 Hanover street	Henry Linden.					
Thurs'y 18	25	.....	5.31	1015 Greenmount avenue.	Nicholas Parrish.	Oyster saloon and dwelling	6	5	Three-story brick	Loss, $20.00. Recall 5.38 p.m.; explosion of gasoline stove.
Thurs'y 18	153	.....	8.44	1520 Canton ave.	Louis Allex.	Candy factory and tenement	.....	.....	Three-story brick	Loss, none. Recall 8.48½ p. m.; pan of sugar boiling over.
Friday 19	159	.....	12.24	1715 Aliceanna st.	Charles Philips.	Tenement and harness factory.	.....	.....	Three-story brick	Loss, $15.00. Recall 12.34 p. m.; explosion of can of gasoline.
Friday 19	392	.....	7.14	Sumwalt's lane, Annex.	Unoccupied.	Dwelling.	Chem. 7	9	One-story frame.	Loss, $125. Recall 8.57 p. m.; incendiary.
Satur'y 20	187	10.01	.....	601 and 603 Luzerne street.	Napoleon B. Woolford.	Oakum factory	11	.....	Two-story brick.	Loss, $480.00. Recall 10.36 a. m.; spark from machinery.
Satur'y 20	371	11.26	.....	1104 Parrish alley.	William Banks.	Dwelling.	8, 13	4	Two-story brick.	Loss, $77.00. Recall 11.56 a. m.; children playing with matches.

Satur'y	20	394	.....	8.56	621 Third avenue. Annex.	H. E. Steffey.	Dwelling.	.....	.....	Two-story brick.	Loss, none. Recall 9.09 p. m.; smoke from bake oven.
Satur'y	20	25	.....	1159½	916 Greenmount av.	J. L. Sadler.	Provision store and dwelling	.....	5	Three-story brick	Loss, $24.65. Recall 12.05 a. m., 21st; lighted candle left in ice-box.
Sunday	21	155	1028½	.....	259 S. Caroline st.	William Burrier.	Dwelling.	.....	.....	Two-story and attic brick.	Loss, $10.00. Recall 10.35 a. m.; explosion of gasoline stove.
Monday	22	15	.....	1.27	320 S. Broadway.	George Behn.	Stable.	5	3	Two-story brick.	Loss, $73.50. Recall 2.02 p.m.; unknown
Monday	22	514	.....	5.49	219 S. Eutaw st.	Mary Berman.	Barber shop and dwelling	.....	.....	Three-story brick	Loss, $30.00. Recall 5.58 p. m.; explosion of coil oil lamp.
Monday	22	159	.....	6.59½	1710 Aliceanna st.	Stanislaus Malonoviski.	Tenement.	.....	3	Three-story and attic brick.	Loss, $118.25. Recall 7.12 p.m.; explosion of coal oil lamp.
Tuesday	23	382	10.33	.....	2312 Eutaw place.	G. L. Myers.	Dwelling.	.....	4	Three-story brick	Loss, $194.69. Recall 11.17 a. m.; incendiary.
Tuesday	23	419	.....	5.59	225 W. Saratoga st.	C. F. Meislahn.	Wood-working shop.	.....	.....	Three-story and attic brick.	Loss, none. Recall 6.10 p.m.; burning rubbish on hearth.
Wedn'y	24	426	.....	4.24½	1105 W. Baltimore street.	L. Howell.	China store and dwelling.	.....	8	Two-story and attic brick.	Loss, $45.00. Recall 4.33 p.m.; explosion of gasoline stove.
Thurs'y	25	421	12.25	.....	628 W. Lexington street.	Bernard Greenburg.	Second-hand store and dw'g	1, Chem. 15	2	Three-story brick	Loss, $230.62. Recall 1.10 a.m.; unknown
Thurs'y	25	342	3.12	.....	Hoffman st. near Mt. Royal avenue	Belt Line R. R.	Oil storehouse.	18	4	One-story frame.	Loss, $85. Recall 3.35 a.m; lighted lamp near gasoline.

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Thurs'y 25	171	9.42	.....	2204 Boston street.	Noah W. Webster	Ship chandlery and dwelling	.....	.....	Three-story brick	Loss, none. Recall 10 a.m.; smoke from windows.
Thurs'y 25	154	.....	7.50½	1444 Block street.	Wm. King.	Dwelling.	.....	.....	Two-story brick.	Loss, $15. Recall 7.59 p.m.; upsetting of coal oil lamp.
Satur'y 27	6	.....	7.46	108 and 110 E. Lombard street.	Novelty Silver Plating Co.	Plating works.	4	1	Four-story brick.	Loss, none. Recall 7.53 p.m.; unknown
Sunday 28	533	6.46	.....	737 W. Barre street	John W. Kolb.	Dwelling.	10	2	Two-story brick.	Loss, $66.63. Recall 6.53 a.m.; explosion of gasoline stove.
Sunday 28	175	.....	12 01	314 S. Collington av	Ritterbach.	Dwelling.	11	3	Two-story brick.	Loss, $23.25. Recall 12.12 p.m.; unk'wn
Monday 29	28	12.08	.....	1752 N. Chester st.	James McKewen.	Cigar store and dwelling.	9, 18	5	Two-story brick.	Loss, $535.00. Recall 2.02 a.m.; unknown.
Monday 29	212	4.45	.....	37 Centre Market Space.	Fredk. Gaman.	Dwelling.	3	1	Three-story brick	Loss, $70.00. Recall 4.57 a.m.; upsetting of coal-oil lamp
Monday 29	623	.....	3.31	12 W. Church st.	John Versel.	Dwelling.	.....	6	Two-story brick.	Loss, $69.50. Recall 3.45 p.m.; children playi'g with matches
Wedn'y 31	415	.....	5.10	312 W. Fayette st.	Geigan & Allen.	Restaurant.	.....	.....	Three-story brick	Loss, none. Recall 5.15 a.m.; electric light wire.
Wedn'y 31	342	5.50	.....	41 W. Preston st.	Harry M. Warfield	Dwelling.	7, 18	.....	Four-story brick.	Loss, $3,552.34. Recall, 7.34 a.m.; unknown.

Wedn'y 31	125	7.12	.....	306 and 308 Patterson street.	W.S.Powell & Co	Fertilizer storehouse.	4	1	Three-story brick	Loss, $77.00. Recall 7.23 a.m.; spontaneous combustion.
November.										
Thurs. 1.	418	.....	10.06	219 N. Eutaw st.	Joseph Curran.	Dental goods factory.	....	.....	Three-story brick	Loss,$2,345.57. Recall 10.15 p.m.; gas jet against woodwork.
Friday 2	472	7.06	.....	1715 Lorman street.	George Adams.	Dwelling.	8, 13, 14	4	Two-story brick	Loss, $209.18. Recall 7.48 a.m.; unknown
Friday 2	234	8.34	.....	1816 Orleans street.	Paul Seileo & Bro	Bakery and dwelling.	9	3	Three-story brick	Loss, $25.00. Recall 8.44 a.m.; overheated oven.
Friday 2	155	.....	3.11½	246 S. Caroline st.	Unoccupied.	Dwelling.	....	3	Two-story and attic brick.	Loss, $17.57. Recall 3.20 p.m.; sparks from chimney.
Friday 2	397	.....	5.39	Falls road near Merryman's lane, Annex.	Unoccupied.	Dance hall and bowling alley	18 Chem. 3, 7	9	One-story frame.	Loss, $225.00. Recall 11.47 p.m.
Satur'y 3	291	1.55	.. ....	36 Gutman avenue, Annex.	James Yarnell.	Grocery store and dwelling	18 Chem. 3, 4	5	Two-story brick	Loss, $1,236.49. Recall 4.35 a.m.; unknown.
Satur'y 3	455	.....	4.06	1015 Harmony lane.	William Rose.	Stable.	8	4	Two-story brick	Loss, $203.67. Recall 4.45 p.m.; unknown
Sunday 4	38	.....	4.51½	1435 Fremont ave.	T. W. Berger.	Grocery store and dwelling	7, 8, 13	4	Three-story brick	Loss, $2,345.57. Recall 6.28 p.m.; unknown.
Monday 5	124	9.00	.....	221 and 225 Bowly's wharf.	A. B. Bulack & Co	Banana storehouse.	2, 4	1, 3	Four-story brick	Loss, $25.00. Recall 9.08 a.m.; unknown
Monday 5	545	.....	9.12½	848 Stockholm st.	James A. Smith.	Dwelling.	10	6	Two-story brick	Loss, $14.80. Recall 9.59 p.m.; overheated stove.
Tuesday 6	397	2.16	.....	642 Roland ave. Annex.	J. W. Walters.	Cigar store and dwelling.	18 Chem. 3, 7	9	Two-story frame	Loss, $667.37. Recall 5.06 a.m.; unknown

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Tuesday 6.	163	.....	5.02½	125 N. Chapel st.	Agnes Creighton.	Dwelling.	5	3	Three-story brick	Loss, $203.10. Recall 6.04 p.m.; unknown
Tuesday 6.	155	.....	5.51½	1400 Gough street.	John A. Shultz.	Dwelling.	3	1	Three-story brick	Loss, $350.03. Recall 6.06 p.m.; unknown
Tuesday 6.	31	.....	8.16½	319 N. Calvert st.	J. P. Murphy.	Dwelling.	....	1	Three-story brick	Loss, $32.65. Recall 8.25 p.m.; unknown
Tuesday 6.	135	.....	9.24½	1138 to 1142 Block street.	George H. Geiger.	Can factory and canning works.	3, 4, 5 11, 16	1, 3	One-story frame. Two-story brick.	Loss, $6,417.12. Recall 11.39 p.m.; unknown.
Wedn'y 7.	24	12.4	.....	408 Mott street.	Wm. H. Hickman	Stable.	6	.....	Two-story brick	Loss, none. Recall 12.51 a.m.; overheated stove.
Wedn'y 7.	319	11.49	.....	Lovegrove and Garrett alleys.	Mary Whitridge.	Stable.	4, 7	4	Two-story brick.	Loss, $185.67. Recall 1.29 p.m.; spontaneous combustion.
Wedn'y 7.	264	.....	6.03	1409 to 1413 East Monument st.	Wm. J. H. Gluck.	Tinware factory.	....	.....	Four-story brick.	Loss, none. Recall 6.13 p.m.; unknown
Friday 9.	526	1234½	.....	210 Camden lane.	John Hailstock.	Dwelling.	2 Chem. 15	6	Three-story brick	Loss, $306 00. Recall 3.39 a.m.; explosion of coal-oil lamp.
Friday 9.	182	4.50	.....	2225 and 2227 Boston street.	Edward Keiger.	Steam barge.	11	3	Steam barge,	Loss, $800.00. Recall 6.16½ a.m.; heat from ash pan.
Friday 9.	161	7.46½	.....	526 S. Durham st.	Charles Meyers.	Dwelling.	....	3	Two-story brick.	Loss, $32.10. Recall 7.59½ a.m.; overheated stove-pipe.

Satur'y 10	31	.....	10.15	502 N. Calvert st.	Michael Rooney.	Dwelling.	.....	.....	.....	Three-story brick	Loss, none. Recal 10.22 p.m.; explosion of gasoline stove.
Sunday 11	187	.....	2.31½	2542 Fait avenue.	Nevin M. Dikes & Co.	Grocery store and dwelling	11	3		Three-story brick	Loss, $143.62. Recall 2.44 p.m.; unknown
Sunday 11	394	.....	7.03	267 Hickory avenue, Annex.	Unoccupied.	Dwelling.	Chem. 3, 7	9		Three-story brick	Loss, $85.00. Recall 7.59 p. m.; incendiary.
Monday 12	395	9.24	.....	424 Hickory avenue, Annex.	H. Heil.	Dwelling.	....	9		Three-story frame	Loss, none. Recall 9.55 a. m.; defective flue.
Monday 12	512	9.56½	.....	25 Hanover street.	Henry Keidel.	Hardware store	15	2		Five-story brick and iron.	Loss, $75.00. Recall 10.06 a.m.; defective hot-air pipe.
Monday 12	235	.....	2.09	2113 E. Monument street.	Nicholaus Ertel.	Saloon and dwelling.	9	3		Two-story brick	Loss, $93.25. Recall 2.18 p.m.; defective flue.
Tuesday 13	216	2.28	.....	561½ N. Gay street.	Samuel Katten & Company.	Liquor store.	3, 6	1		Three-story brick	Loss, $1,331.72. Recall 3.49 a. m.; unknown.
Tuesday 13	536	9.38	.....	Foot of Columbia avenue.	John T. Whitehurst & Co.	Lampblack factory.	10	6		One-story frame.	Loss, $50.00. Recall 11.06 a. m.; sparks from locomotive.
Wedn'y 14 2d Alarm.	541	4.51 5.10	.....	Fremont and Warner streets.	Bennet Memorial M. E. Church.	Church.	1, 2, 7, 10. 12, 15	6		One-story stone.	Loss, $7.600. Recall 9.30 a. m.; overheated furnace pipe.
Wedn'y 14	62	8.59	.....	45 Weyler street.	Sam'l Smolenski.	Shoe store and dwelling.	12	2		Three-story brick	Loss, $152.00. Recall 9.42 a. m.; defective flue.
Thurs'y 15	397	.....	7.36	Roland ave., near Boundary, Annex	Unoccupied.	Dwelling.	....	.....		Three-story frame	Loss, $20.00. Recall 8 p.m.; incendiary.
Friday 16	5	12.11	.....	24 Light street.	Gilpin, Langdon & Co.	Drug mill.	2, 4 Chem. 15	1, 2		Five-story brick.	Loss, $85.00. Recall 1.38 a. m.; spontaneous combustion.

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Sunday 18	435	12 10½	.....	325 Parkin street.	Gabriel Bender.	Grocery store and dwelling	10	.....	Four-story brick.	Loss, $128. Recall 12.23 a. m.; overheated coal oil stove
Sunday 18	7	12 58½	.....	Foot of Twenty-fourth st., Annex	Balto. & Lehigh R. R. Co.	Freight cars.	....	.....	Two empty freight cars.	Loss, $215.46. Recall 3.32 a.m.; unkn'wn
Sunday 18	428	.....	4.14	940 W. Fayette st.	G. D. Magruder.	Stable.	8	.....	Two-story brick.	Loss, $220. Recall 5.37 p.m.; unkn'wn
Sunday 18	394	.....	7.06	Hickory ave. near Fourth st., Annex	Unoccupied.	Stable.	....	.....	Two-story frame.	Loss, none. Recall 7.30 p.m.; incend'y
Sunday 18	424	.....	8.47	302 N. Fremont st.	Unknown.	Dwelling.	8	2	Two-story and attic brick.	Loss, $75. Recall 8.59 p.m.; incendiary.
Monday 19	34	.....	5.24	Tyson alley and Cathedral street.	M. Corcoran.	Stable.	1, 7, 8	4	Two-story stone.	Loss, $570. Recall 7.18 p. m.; sparks from chimney.
Monday 19	12	.....	7.27½	511 E. Baltimore street.	Charles Martin.	Hat store and photo gallery	3, 4	1	Four-story brick.	Loss, $264.15. Recall 7.34½ p.m.; explosion of chemicals.
Monday 19	526	.....	7.35¼	301 S. Sharp street.	Henry H. Smith.	Tenement.	2	.....	Three-story brick	Loss, $15. Recall 7.48 p.m.; upsetting of coal oil lamp.
Monday 19	283	.....	8.08	84 Harford ave. extended, Annex.	Philip Cormell.	Stable.	18, Ch. 5, 6	4	One-story frame.	Loss, $75. Recall 9.03 p.m.; unknown.
Tuesday 20	347	.....	1.15	1004 N. Calvert st.	H. H. Burbank.	Dwelling.	4, 7, 18	4	Three-story brick	Loss, $1,223. Recall 2.46 p.m.; unkn'wn
Wedn'y 21	151	1.06	.....	130 S. Caroline st.	Robert Montgomery.	Stable.	5	3	Two-story brick.	Loss, $15. Recall 1.18 a.m.; smoking in loft

Thurs'y 22	526	4.28	.....	Camden and Perry streets.	B. & O. R. R. Co.	Belt Line Tunnel.	....	.....	Barrel of tar in tunnel.	Loss, none. Recall 4.35 a.m.; explosion of gasoline lamp.
Thurs'y 22	217	6.32	.....	651 Buren street.	Balto. Vinegar M'f'g Co.	Vinegar factory	6	5	Two-story brick	Loss, $25.00. Recall 6.44 a.m.; unknown
Thurs'y 22	244	6.38	.....	....	....	....	....	.....	....	Loss, none. Recall 6.48a.m.; boxpulled for preceding fire.
Thurs'y 22	144	9.26	.....	....	....	....	....	....	....	Loss, none. Recall 9.30 a.m.; accidental alarm–man dusting box.
Sunday 25	352	6.46	.....	130 W. Lafayette av	P. M. Tabb.	Dwelling.	13, 18 Chem. 2	4	Three-story brick	Loss, $1,392.75. Recall 8.56 a.m.; unknown.
Sunday 25	322	.....	8.08½	405 Little Monument street.	Wm. H. Rigriey.	Stable and carpenter shop.	7	4	Three-story brick	Loss, $10.00. Recall 8.14 p.m.; unknown
Monday 26	291	.....	5.30½	2700 Frisby street. Annex.	William Donavin.	Dwelling.	....	.....	Two-story brick	Loss, $15.00. Recall 6.06 p.m.; child upsetting coil oil lamp. Mrs. Donavin and child burned to death.
Monday 26	415	.....	1103½	312 W. Baltimore st	A. W. Dennett.	Dining saloon.	1	2	Four-story brick	Loss, none. Recall 11.20p.m.; defective flue.
Tuesday 27	531	7.50	.....	667 Columbia ave.	August Albright.	Stable.	10, 15	2	One-story frame	Loss, $102.10. Recall 8.26 a.m.; hot ashes against woodwork.
Wedn'y 28	418	3 50	.....	308 W. Lexington street.	Wm. H. Cowen.	Candy factory and store.	1, 4, 7, 15 Chem. 15	1, 2	Three-story brick	Loss, $2,097.21. Recall 6.29 a.m.; overheated stove.

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Wedn'y 28	348	9.50	.....	408 E. Girard ave.	N. Creager.	Dwelling.	.....	5	Two-story brick.	Loss, $12.00. Recall 10.12 a.m.; children playing with matches
Wedn'y 28	496	.....	2.43	9th st. and North avenue, Annex.	Wm. Seemuller.	Dwelling.	.....	.....	Two-story frame.	Loss, none. Recall 3.10 p.m.; smoke from windows.
Wedn'y 28	7	.....	4.30½	504 W. 24th street, Annex.	John Gosnell.	Dwelling.	.....	.....	Two-story brick.	Loss, none. Recall 4.37 p.m.; boy treading on match.
Thurs'y 29	143	.....	12.39	1119 E. Pratt st.	Unoccupied.	Dwelling.	3	3	Two-story and attic brick.	Loss, $25.00. Recall 12.57 p.m.; children playing with matches
Thurs'y 29	356	.....	3.37	1723 Linden ave.	T. B. Boland.	Dwelling.	13	4	Three-story brick	Loss, $51.50. Recall 3.52 p.m.; children playing with fire.
Thurs'y 29	64	.....	3.40	1740 Johnson st.	William Daenges.	Cigar store and dwelling.	12	6	Two-story brick.	Loss, $123.50. Recall 4.03 p.m.; overheated stove-pipe.
Friday 30	254	.....	3.01	402 E. Lafayette av	Unoccupied.	Dwelling.	18	5	Three-story brick	Loss, $5.85. Recall 3.24 p.m.; spontaneous combustion.
Friday 30	432	.....	5.22½	1105 W. Lombard street.	Stephen J. O'Neill	Dwelling.	.....	.....	Two-story and attic brick.	Loss, none. Recall 5.31 p.m.; falling of coal-oil lamp.

December.										
Saturday 1	156	9.57	.....	1621 Shakespeare st.	Adam Roth.	Grocery store and dwelling	....	3	Two story and attic brick.	Loss, $74.10. Recall 10.11 a.m.; children playing with m'tches
Monday 3	352	.....	7.34	217 W. Lafayette av	B. Perry.	Dwelling.	7	4	Three-story brick	Loss, $91. Recall 7.48 p.m.; unknown.
Wedn'y 5	323	.....	9.30	544 Dolphin street.	S. Rosenthal.	Dwelling.	7. 8. 13	4	Two-story brick.	Loss, $798. Recall 11 p.m.; unknown.
Saturday 8	522	9.54	.....	334 Light street.	Joseph Antonio.	Fruit store and cook shop.	2	2	Five-story brick.	Loss, $18.50. Recall 10.01 a.m.; spontaneous combustion.
Saturday 8	31	.....	4.55½	424 Courtland street	John Powers and G. Eursrick.	Paint shop and dwelling.	....	1	Four-story brick.	Loss, none. Recall 5.04 p.m.; spontaneous combustion.
Sunday 9	483	10.25	.....	6 and 8 Garrison lane, Annex.	Margaret Burns Louis Meernpel	Grocery store and dwelling	8, 14, Ch. 1	2, 8	Two-story brick.	Loss, $905.65. Recall 11.57 a.m.; explosion of gasoline stove.
Monday 10	61	.....	11.11	104 E. Hughes st.	Marion Craig.	Grocery store and dwelling	2	.....	Two-story brick.	Loss, $47. Recall 11.27 p.m.; overht'd stove
Thurs'y 13	437	6.20	.....	509 W. Pratt street.	C. W. Weber.	Candy factory.	1, 15, Ch. 15	2	Three-story brick	Loss, $673.99. Recall 7.12 a.m.; spontaneous combustion.
Thurs'y 13	236	.....	3.48	2109 Fairmount av.	Wm. F. Roche.	Dwelling.	....	.....	Three-story brick	Loss, $5. Recall 4.07 p.m.; burning chimney.
Thurs'y 13	419	.....	5.43½	Eutaw street near Mulberry street.	Eutaw street M. E. Church.	Church.	....	2	Two-story brick.	Loss, none. Recall 5.57 p.m.; disconnected stove-pipe.
Friday 14	416	.....	9.40	....	....	....	....	.....	....	Loss, none. Recall 9.50 p.m.; false alarm.
Friday 14	389	.....	10.45	Ashburton Farm. Reisterstown road Annex.	John S. Gittings.	Strawstack and hay barrack.	Chem. 2	..... .	Stack of straw. One-story frame.	Loss, $480.00. Recall 12.34 a.m. 15th; incendiary.

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Satur'y 15	535	6.43	.....	1101 S. Carey st.	Wm. H. Nonfolk.	Grocery store and dwelling	.....	.....	Two-story brick.	Loss, $23. Recall 6.54 a. m.; explosion of coal-oil stove.
Satur'y 15	423	.....	4.28½	608 W. Baltimore street.	William E. Caulk	Oyster saloon and dwelling	.....	.....	Three-story brick	Loss, $53.55. Recall 4.34 p.m.; explosion of gasoline stove.
Satur'y 15	314	.....	6.22	505 Park avenue.	F. Von Kapt.	Dwelling.	7	.....	Three-story brick	Loss, none. Recall 6.45 p.m.; burning chimney.
Sunday 16	6	1.02½	.....	27 S. Calvert street.	E. Stanley Stirling & Co.	Printing office.	4	.....	Four-story brick.	Loss, $213.47. Recall 1.15 a.m.; overheated stove.
Sunday 16.	392	2.07	.....	Falls road near Stoney Run, Annex.	Unoccupied.	Dwelling.	18 Chem.3,4,7	9	Two-story frame.	Loss, $300.00. Recall 3.56 a.m.; incendiary.
Monday 17	441	.....	5.55½	7 S. Charles street.	Charles A. Korn.	Lunch room and millinery store.	.....	.....	Four-story brick.	Loss, none. Recall 6.05 p.m.; burning chimney.
Monday 17	345	.....	1046½	Falls road near 20th street, Annex.	Baltimore and Lehigh R. R. Company.	Freight car.	18 Chem. 3	5	Freight car.	Loss, $600. Recall 2.07 a.m. 18th; spontaneous combustion.
Monday 17	7	.....	11.53	Falls road, foot of 24th street, Annex	Baltimore and Lehigh R. R. Company.	Freight cars.	Chem. 2, 3	7	Freight cars.	Loss, $400.00. Recall 1.59½ a.m. 18th; incendiary.

Tuesd'y 18	161	.....	4.59	1719 Canton avenue	John Wolfman.	Plumbing store and dwelling.	....	3	Three-story brick	Loss, $20. Recall 5.06 p.m.; explosion of tinner's gasoline stove.
Tuesd'y 18	61	.....	1029½	5 E. Hill street.	Isaac Sample.	Dwelling.	2	6	Two-story and attic frame.	Loss, $53.50. Recall 10.40 p.m.; overheated stove-pipe.
Thurs'y 20	421	.....	9.06	722 W. Lexington street.	James Hersfarter.	Dwelling.	1	2	Three-story brick	Loss, none. Recall 9.23 p. m.; burning chimney.
Thurs'y 20	623	.....	9.42	7 to 13 W. Henrietta street.	Chales S. Kriel.	Smoke-house.	2	6	Two-story brick.	Loss, $115.00. Recall 10 p. m.; heat from smokehouse.
Friday 21	624	.....	2.36¼	Sharp street, near West street.	City of Baltimore.	No. 24 Primary School.	....	.....	Two-story brick.	Loss, none. Recall 2.42 p. m.; false alarm.
Satur'y 22	153	1.09	.....	429 to 443 S. Central avenue.	George Plitt.	Iron foundry.	3	3	One-story frame.	Loss, $122.70. Recall 2.19 a. m.; hot castings.
Monday 24	393	.....	7.20	Foot of Third ave., Annex.	Unoccupied.	Shed.	Chem. 7	.....	One-story frame.	Loss, $15.00. Recall 8.12 p. m.; incendiary.
Tuesday 25 2d alarm. 3d alarm.	31	1202½ 12.15 12.29	.. .	325 North street.	Edgar Gillett.	Hay-cutting works.	1, 2, 3, 4, 6, 7, 10, 15, 18.	1, 2, 3, 4, 5	Three-story brick	Loss, $16,355.09. Recall 6.50 p. m.; unknown.
Tuesday 25	157	12.10	.....	715-17 S. Caroline street.	George Traynor.	Junk shop and dwelling.	11	3	Two-story brick and frame.	Loss, $438.75. Recall 2.10 a.m.; unknown
Tuesday 25	431	11.17	.....	745 W. Lombard st.	Teddie Brown.	Saloon and dwelling.	1, 2, 15.	4	Three-story brick	Loss; $38.60. Recall 11.47½ a.m.; explosion of gasoli'e stove
Tuesday 25	136	.....	5.06¼	Foot of Concord st.	Baltimore Steam Packet Co.	Wharf and freight shed.	3	1	Bales of cotton under shed.	Loss, $206.10. Recall 5.13 p. m.; incendiary.

RECORD OF FIRES AND ALARMS FOR THE YEAR ENDING DECEMBER 31, 1894.

Date.	Box.	Hour A.M.	Hour P.M.	Locality.	Occupant.	How Occupied.	Engines in Service.	H. & L. in Service.	Style of Buildings.	Remarks.
Tuesday 25	526	.....	9.33½	213 S. Sharp street.	Coplein, Sachs & Company.	Feed store.	2	2	Three-story brick	Loss, $5. Recall 9.43 p. m.; spontaneous combustion.
Thurs'y 27	151	3.52	.....	1515-17 E. Pratt st.	Frederick Lang. Charles Boyd.	Barber shop and dwelling Dwelling.	3, 5, 11	3	Two-story and attic brick	Loss, $270.69. Recall 5.47 a. m.; unknown
Thurs'y 27	514	.....	8.22½	212 S. Eutaw street.	Western Beef Co.	Meat store and dwelling.	15	2	Three-story brick	Loss, $10.00. Recall 8.28 p. m.; unknown
Friday 28	323	3.50	.....	541 W. Lanvale st.	Calipurnian Club.	Club-house.	7, 13	4	Three-story brick	Loss, $365.80. Recall 4 29 a. m.; incendiary.
Friday 28	394	.....	4.04¾	227 Chestnut ave., Annex.	Joseph M. Smith.	Grocery store and dwelling	.....	.....	Two-story frame.	Loss, $25.00. Recall 4 27 p.m.; explosion of gasoline stove.
Friday 28	229	.....	9.49	207 N. Castle st.	Jacob Hill.	Hot-house.	.....	3	One-story frame.	Loss, $50.00. Recall 10 p. m.; overheated furnace.
Satur'y 29	319	7.59¾	.....	822 N. Calvert st.	J. T. Rossiter.	Dwelling.	4, 7	4	Three-story brick	Loss, $50.50. Recall 8.40 a. m.; unknown
Satur'y 29	541	9.45	.....	930 Warner street.	Chas. W. Harlee.	Dwelling.	2, 10	6	Two-story brick.	Loss, $255.65. Recall 10.10 a. m.; children playing with matches.
Satur'y 29	398	.....	3.32½	Charles-street avenue, near Merryman's lane.	Wm. H. Wyman.	Dwelling.	.....	9	Three-story brick	Loss, none. Recall 4.23 p.m.; burning chimney.

Sunday 30	317	2.00½	.....	6 and 8 E. Centre street.	Albany Flats.	Flats.	7	4	Three-story brick	Loss, $48.82. Recall 2.10 a. m.; overheated furnace pipe.
Sunday 30	161	.....	5.01	1806 Eastern ave.	Samuel Waters.	Dwelling.	....	.....	Three-story brick	Loss, $10.00. Recall 5.08 p. m.; lighted match thrown on curtain.
Monday 31	531	.....	11.10	754 Columbia ave.	Frank Haline.	Dwelling.	....	.....	Two-story and attic brick.	Loss, $17.50. Recall 11.15½ p.m.; lighted candle set fire to Christmas bush.

Number of Fires and Losses each year since the Organization of the paid Fire Department.

Year.	No. of Fires.	Losses.
1859	98	$ 350,000 00
1860	112	310,000 00
1861	115	60,000 00
1862	130	83,000 00
1863	138	120,482 33
1864	143	163,528 49
1865	163	71,358 00
1866	178	181,115 00
1867	193	293,045 00
1868	145	76,244 75
1869	187	398,259 09
1870	203	432,717 07
1871	226	475,391 00
1872	245	300,000 00
1873	265	892,628 58
1874	384	506,826 15
1875	348	608,351 30
1876	332	563,248 78
1877	420	438,715 57
1878	371	162,312 78
1879	306	192,654 54
1880	343	580,290 09
1881	324	454,773 35
1882	358	330,113 84
1883	399	561,520 00
1884	388	617,871 79
1885	474	441,743 06
1886	430	896,527 12
1887	496	1,162,359 26
1888	602	1,272,478 82
1889	545	477,329 07
1890	594	441,152 65
1891	676	650,009 73
1892	795	839,435 77
1893	829	1,153,129 76
1894	831	542,188 29
The total loss by fires in 36 years has been		$17,100,801 03

REPORT

—OF THE—

SUPERINTENDENT

Police and Fire-Alarm Telegraph.

REPORT.

BALTIMORE, January 1, 1895.

To the Honorable Board of Fire Commissioners:

GENTLEMEN:

Herewith is submitted my report of extensions, alterations and improvements made in this Department during the year ending December 31, 1894.

MONTHLY STATEMENT.

January—Put new cross-arms on poles on Presstman street, between Gilmor and Stricker streets. New upright Third avenue and Lake Roland railroad crossing, putting two ten and four four-pin arms. Run new wires at Southern Police Station.

February—Changed boxes 154 and 156 to new poles put up by Telephone Company; also changed wires same point. Put new cross-arm on pole corner Smith street and Pennsylvania avenue.

March—Run new wire in box 542. Put new cross-arms on poles on Dover street, between Eutaw and How-

ard streets. Put new cross-arms on pole corner Smith street and Pennsylvania avenue.

April—Put up one forty-foot pole on Lafayette avenue and Fulton avenue. Put small gong in District Chief Dunn's house, 1241 Homewood avenue. Run wires into City and Suburban Railway barn, 119 South Liberty street, and put in small gong. Raised wires Morton alley near Biddle street in way of new building. Moved pole Preston and Spring streets in way of new building. Run new wires in No. 9 Engine-house for telephone and independent circuits.

May—Put up four thirty-five-foot poles on Potomac street, between Elliott and Boston streets; two thirty-five-foot on Foster alley, between Canton and Robertson streets; seven thirty-five-foot on Patterson Park avenue, between Baltimore and Lombard streets; two forty and three thirty-five-foot on Fayette street, between Collington avenue and Ann street; twenty-eight thirty-five-foot on Mine Bank lane, between Mouument and Lanvale streets, and two thirty-five-foot on Lombard street, between Mine Bank lane and Collington avenue; fourteen thirty-five-foot on Collington avenue, between Lanvale street and Belair road; two fifty-foot at Belair avenue and Belt Line Railway crossing; twenty-one thirty-five-foot on Belair road, between No. 6 Chemical Engine Company and Georgetown; two thirty-five-foot on Caroline street, between Hoffman

and Federal streets; two thirty-five-foot on Spring street, between Hoffman and Preston streets; two fifty-foot, two forty-five-foot and two forty-foot on Pennsylvania avenue, between Smith street and Lafayette avenue; two forty-foot at Pennsylvania avenue and Retreat street; two forty-foot on Gilmor street, between Ramsay and McHenry streets; one forty-five-foot and three thirty-five-foot on Madison street, between Central avenue and Caroline street; one thirty-five-foot corner Chase and Durham streets; fourteen thirty-five-foot on Laurens street, between Park and Madison avenues; one fifty-foot corner Ostend and Warner streets; one forty-five-foot corner Ridgely and Scott streets; forty-two thirty-five-foot, four forty-foot and two forty-five-foot on Lafayette avenue, between Fulton avenue and Bloomingdale road. Moved Box 315 from side of house to pole at Monument street and Plover alley. Changed Box 172 to new pole. Changed all wires on Patterson Park avenue to new poles between Baltimore and Pratt streets. Put up new copper wire on No. 6 Circuit on Fayette street, between North and Liberty streets. Put up new copper wire for No. 2 Circuit on Fayette street, between North and St. Paul streets. Put up new wires on Mine Bank lane, between Monument and Lanvale streets; on Lanvale street, between Mine Bank lane and Lanvale street, and on Lanvale street and Collington avenue, along Collington avenue to Belair road.

June—Put up one forty-foot pole on Lombard street, between Poppleton street and Callender alley; two forty-foot on Callender alley, between Lombard street and Lemon alley; six forty-foot on Fort avenue, between Andre street and Baltimore and Ohio railroad; two forty-foot on Lafayette avenue, between Stricker and Gilmor streets; six forty-five-foot on Lafayette avenue, between Fulton avenue and Gilmor street; twelve forty-foot on Huntingdon avenue, between Remington avenue and Oak street; five forty-foot on Third avenue, between Roland and Cedar avenues; seven forty-foot on Pennsylvania avenue, between Cumberland and Retreat streets; three forty-foot on Retreat street, between Pennsylvania avenue and Mary street; one forty-five-foot corner St. Paul and Centre streets; one forty-foot corner Madison avenue and Lovegrove alley; three thirty-five-foot on Brunswick avenue, between Wilkens avenue and No. 1 Chemical House; three thirty-five-foot on Shutte street, between Lafayette avenue and Mosher street; one forty-foot corner Penn and King streets; two fifty-foot corner Fremont and Lafayette avenues; two fifty-foot corner Eastern avenue and Baltimore and Ohio Railroad bridge; fourteen thirty-five foot on Third avenue, between Falls road and Northern Central Railway.

July—Changed Boxes 474 and 476 to new poles. Changed cross-arms on Presstman and Carey streets, Barre and Eutaw street, Mt. Royal avenue and Cathedral

street, Eager street and Hargrove alley, and Madison street and Lovegrove alley. Changed Box 372 to new pole. Put new cross-arms up on Gilmor and McHenry streets, Hillen and Front, and moved pole. Took down old poles on Laurens street, Pennsylvania avenue and Smith street. Moved poles on Lexington street, between Stricker street and Fulton avenue, in way of new kerbing. Moved nine poles on North avenue at different places, in way of gas lamps, between Tenth street and Pennsylvania avenue. Took down old poles on Pennsylvania avenue, between Cumberland and Retreat streets. Took down old poles on Lafayette avenue, between Stricker street and Fulton avenue. Put new cross-arms on pole at Greenmount and North avenues.

August—Put one forty-foot pole corner Light and Lee streets. Changed wires to new poles and took slack out of our wires on Light street, between Montgomery and Lee streets. Put one forty-foot pole on Montgomery street, near Light street. Changed wires Montgomery and Light streets. Raised wires Charles and Ostend streets, out of way of Western Union wires. Changed Box 61 to new pole put up corner Light and Lee streets.

September—Run new wires on Lombard street, between Charles street and Cheapside. Moved pole Gay street and Broadway; in way of kerbing. Put new door on Box 635.

October—Put wires and gong in Central Railway Car Barn, Preston street, near Greenmount avenue. Run telephone and independent circuits in Chief Engineer Ledden's quarters at No. 4 Truck House. Moved pole corner Gilmor and Pratt streets, in way of kerbing.

November—Renewed wires running to alarm boxes where necessary. Put new springs in gongs at North-eastern Police Station and No. 12 Engine-house. Moved pole corner Bloomingdale road and Lafayette avenue. Put new spring in Box 315, Monument street and Plover alley. Put gong in Chief Ledden's quarters, No. 4 Truck House, on No. 2 Alarm Circuit. Moved telephone at No. 4 Engine-house and put in nickel-plated stand and telephone switch.

December—Moved telephone and alarm wires at No. 1 Chemical Engine Company. Run independent circuit in Maryland Club for Commissioner May. Renewed wires running to alarm boxes in several places.

NEW BOXES PUT UP IN 1894.

167 Eastern avenue and Broadway.
188 Boston and Potomac streets.
189 Foster and Robertson streets.
229 Fayette and Castle streets.

KEYLESS DOORS.

The following boxes should be changed to keyless doors :

14 No. 3 Engine-house.
17 No. 11 Engine-house.
234 Ann and Orleans streets.
24 No. 6 Engine-house.
257 No. 5 Hook and Ladder.
259 Biddle and Valley streets.
263 Caroline and Preston streets.
264 Caroline and Monument streets.
27 No. 9 Engine-house.
272 Biddle and Wolfe streets.
324 Preston street and Druid Hill avenue.
326 McMechen street and Pennsylvania avenue.
327 McMechen street and Madison avenue.
36 No. 13 Engine-house.
364 No. 4 Hook and Ladder House.
367 Myrtle avenue and Hoffman street.
371 Mosher and Gilmor streets.
429 Baltimore and Calhoun streets.
455 No. 8 Engine-house.
481 No. 14 Engine-house.
46 Baltimore and Gilmor streets.
53 No. 10 Engine-house.
532 Barre and Warner streets.
534 Ridgely and Hamburg streets.
535 Columbia avenue and Wooster street.
612 Montgomery and William streets.
615 No. 12 Engine-house.
631 No. 6 Truck-house.

CONDITION OF LINES.

The lines of the department are in good shape with the exception of 2 and 3 Box Circuits, covering the wharf property. A great deal of this line is over house-tops and uncovered wire. Unless immediate steps are taken to place our wires underground it will be necessary to re-run these two circuits with insulated copper wire.

They are the shortest circuits we have, and would not take over four miles of wire for purpose mentioned.

I also recommend the running of insulated wire over Independent Circuit wherever they pass through trees.

In rainy weather the escape of current by coming in contact with limbs of trees is so great as to materially affect the efficiency of the circuit.

This change would require about three miles of wire, and would be money well spent.

LOCATIONS WHERE FIRE-ALARM BOXES ARE REQUIRED.

Hanover and Lombard streets.
Hanover and Conway streets.
Camden and Paca streets.
Hill and Charles streets.
Conway and Fremont streets.
Cross and Race streets.
Howard and Stockholm streets.

Foot of Marshall avenue.
Garrett avenue and Beason street.
Baltimore and Schroeder streets.
Poppleton and Saratoga streets.
Baker and Calhoun streets.
Division and Robert streets.
Eutaw Place and Willson street.
Harlem avenue and Calhoun street.
Fulton avenue and Baker street.
Lafayette avenue and John street.
Fulton avenue and Pratt street.
Hollins and Stricker streets.
Harlem avenue and Monroe street.
Lexington and Pulaski streets.
Calverton and Frederick roads.
Calverten road and Franklin street.
Fulton avenue and Saratoga street.
Hollins and Mount streets.
Hamburg and Fremont streets.
Frederick road, opposite St. Joseph's Monastery.
Frederick road and Water lane.
Maiden Choice lane and Oregon avenue.
Orleans and Forrest streets.
East and Front streets.
Aisquith street and Harford avenue.
Hoffman street and Homewood avenue.
Lanvale street and Hopkins avenue.
Gorsuch avenue and Independence street.
Montebello and Gutman avenues.

Lexington and Frederick streets.
Lexington and Sharp streets.
Calvert and Franklin streets.
Pratt and South streets.
Courtland and Mulberry streets.
Fayette street and McClellan's alley.
Mulberry and Pine streets.
Mulberry and Paca streets.
Paca and Franklin streets.
Baltimore and Pearl streets.
Pennsylvania avenue and Orchard street.
Fairmount avenue and Washington street.
Ann and Eager streets.
Oliver and Luzerne streets.
Charles and North avenues.
Broadway and Lanvale street.
Bond street and Boundary avenue.

DESTRUCTION OF CENTRAL OFFICE BY FIRE.

On July 19, about 7 P. M., Operator McAleese discovered electric light current on 12 Circuit. He cut circuits showing trouble out at the switch-board, and a moment afterward saw smoke coming through openings in the floor. He ran to the cellar to try to put fire out, but the inflammable nature of the dry insulation, which was (parafine) cotton covering, made it impossible to do anything.

All instruments and machinery were either burnt or

injured by smoke and water, making it necessary to refit entire office.

Temporary quarters were arranged in the room known as the Armory, and by 8 P. M. of the 20th, nearly every box in the city was again in service. On November 11th, the machinery in Central Office was again turned over to the city and found to be working in every way satisfactory.

MATERIAL ON HAND IN LINEMAN'S DEPARTMENT.

8 shovels.
3 scoops.
5 digging bars.
2 ramming bars.
2 cant hooks.
1 butt pike.
6 pike poles.
8 drawing knives.
2 chopping axes.
3 hand axes.
2 chisels.
2 saws.
4 screw-drivers.
½ dozen bits.
2 pair pipe tongs.
4 pair plyers.
1 hammer.
2 braces.
2 monkey-wrenches.
1 small truck.
200 feet small rope.
1 gasoline pot.
75 pound copper line wire.
8 pounds office wire.
1 gross screws.
25 caps.
150 glass insulators.
28 T arms.
125 bolts and washers.
25 pound nails.
4 straps and vises.
45 four-pin arms.
50 six-pin arms.
4 backboards.
100 galvanized staples.
25 large knobs.
5 two-wire cleats.
1 grinding-stone.
6 pair rubber gloves.

MATERIAL NECESSARY IN LINEMAN'S DEPARTMENT.

250 poles, different sizes.
500 four-pin cross-arms.
100 six-pin cross-arms.
50 T arms.
50 backboards.
2000 feet Grimshaw wire.
100 pounds No. 16 office wire.
15 miles copper line wire No. 12.
2 miles of K K copper line wire No. 10.
200 McIntyre sleeves.
2 pair of connectors.
1000 glass insulators.
12 rolls gum tape.
12 shovels.
12 scoops.
4 digging bars.
6 pair plyers.
1 bench vise.
1 gasoline pot.
12 pike poles.
300 pole brackets.
150 pound nails, different sizes.
1 keg spikes.
100 pounds solder.
½ dozen saws.
3 cant hooks.
600 feet small rope.
2 gross screws.
500 cleats.
6 drawing knives.
3 chopping axes.
6 hand axes.
2 chisels.
2 monkey-wrenches.
1 pole truck.
1 block and fall.
200 large knobs.
2 dozen bottles watch oil.
2 hammers.
1 dozen bottles soldering salts.
½ dozen bits, different sizes.
2 quires emery paper.
½ dozen files.
200 feet ½-inch galvanized pipe.
500 galvanized staples.
2 pounds double-pointed tacks.
5 pounds hard rubber tubing.
5 gallons linseed oil.
100 pounds white lead.
25 pounds Indian red.

MATERIAL ON HAND IN BATTERY DEPARTMENT.

2 barrels blue stone.
400 4-pound zincs.
1 large scale.
2 copper scoops, lot old Leclanch battery.

MATERIAL NECESSARY IN BATTERY DEPARTMENT FOR 1895.

50 barrels bluestone.
1800 4-pound zincs.
1500 coppers.
100 cells, Leclanch (Gonda) battery, complete.
200 packages sal ammoniac, extra.
100 Leclanch zinc, extra.
25 cells, Leclanch battery, complete.
100 binding posts.
500 battery jars.
35 gallons Monarch battery oil.
2 gallons turpentine.
1 gallon hard oil.
6 rolls gum tape.
15 pounds waste.

MATERIAL FOR CENTRAL OFFICE.

2 office diaries.
3000 sheets department paper.
3000 department envelopes.
100 sheets emery paper.
1 box register paper.

QUARANTINE LINE.

This line has worked satisfactorily during the past year, and the small amount necessary to keep it in repair is asked for in the estimate of expenses.

WATER BOARD LINE.

This line is in good working order, but it should be changed from a ground to a metallic circuit to get rid of induction from electric and steam railroads.

BAY VIEW LINE.

This line works well. A small amount is asked for its maintenance.

ENGINE-HOUSE ALARM CIRCUITS.

There are five engine-house alarm circuits, and they have been extended into the Annex, and have too many gongs on them. I would recommend the purchase of a new switch-board so that we could increase the engine-house alarm to ten circuits. The switch-board now in use will not permit of any increase of circuits; also to enlarge cylinders of three dial and automatic repeaters to accommodate extra circuits.

MATERIAL FOR CENTRAL OFFICE.

2 office diaries.
3000 sheets department paper.
3000 department envelopes.
100 sheets emery paper.
1 box register paper:
½ dozen bottles register ink.

ESTIMATE OF EXPENSES FOR 1895.

	Per annum.
1 superintendent telegraph	$ 3,000 00
4 operators, $1,200 each	4,800 00
1 chief lineman	1,200 00
3 assistant linemen, $1,000 each	3,000 00
1 batteryman	1,200 00
Total salaries	$13,200 00
Material, labor and general repairs	$ 3,000 00
Battery department	2,900 00
Wear and tear of line	1,000 00
Electric apparatus (City Hall)	100 00
Feed and horseshoeing	600 00
House of Correction line	200 00
Water Board line	300 00
Bay View line	100 00
Maintenance and repairs of line in Annex	1,000 00
2 horses for lineman's department	600 00
Insurance for eleven men, telegraph department	58 63
	$23,058 63

CENTRAL OFFICE.

I would respectfully recommend that the force of this department be increased two more telegraph operators and one assistant battery and lineman. The telegraph system has doubled in the last few years and there should be two skilled operators on duty at all times.

One operator on duty is not enough to discharge the duties of the office promptly; if the operator should be taken suddenly ill, or receive an electric shock from a dynamo current at the switch-board when testing the wires, which is liable to occur at any moment, the results would be disastrous if a fire should occur at the time of accident. We have only one batteryman, and the batteries have increased very much since the belt was annexed and there is an increase of wires, boxes and gongs.

EMPLOYEES OF THE DEPARTMENT.

Operators—Frank L. McAleese, James F. O'Mailey, Charles C. Prince, John J. McCoy.

Substitute Operator—George Clark.

Chief Lineman—John M. Nugent.

Assistants—Charles J. Hellings, John Durkan, Thomas W. Glass.

Batteryman—Robert Kain.

Thanks are tendered the members of the Police and Fire Departments for assistance rendered, and to the employees of this department for prompt and efficient discharge of their duties.

Yours respectfully,

CHARLES J. McALEESE,

Supt. of Police and Fire-Alarm Telegraph.

ANNUAL REPORT

—OF THE—

CITY COLLECTOR

—TO THE—

MAYOR AND CITY COUNCIL OF BALTIMORE,

—FOR THE—

FISCAL YEAR ENDING DECEMBER 31, 1894.

REPORT.

TAX DEPARTMENT,

CITY COLLECTOR'S OFFICE—CITY HALL,

BALTIMORE, January 1, 1895.

To the Honorable the Mayor
and City Council of Baltimore:

GENTLEMEN:

I have the honor to submit for your inspection the operations of this department for the year ending December 31, 1894, in the first twenty wards of the city, and also in the Twenty-first and Twenty-second Wards.

The amount of money received from all sources during the year, including the Twenty-first and Twenty-second Wards, was $5,719,478.80.

On levy of 1889—present basis, $266,868,823—the total collections have amounted to 100 per cent.

On levy of 1890—present basis, $270,989,102—the total collections have amounted to $99\frac{94}{100}$ per cent.

On levy of 1891—present basis, $274,548,025—the total collections have amounted to $99\frac{87}{100}$ per cent.

On levy of 1892—present basis, $276,384,455—the total collections have amounted to $99\frac{78}{100}$ per cent.

On levy of 1893—present basis, $284,547,988—the total collections have amounted to $95\frac{11}{100}$ per cent.

On levy of 1894—present basis, $292,090,946—the collections from May to December 31, inclusive, amount to $72\frac{17}{100}$ per cent. Deducting amount of plant exempt from city taxation, the percentage collected amounts to $72\frac{96}{100}$ per cent.

Table A shows the monthly collections of both city and State, including the Twenty-first and Twenty-second Wards, amounting to $5,719,478.80. Of this sum the city's proportion was $5,207,118.71, and that of the State $512,360.09.

Table B shows the bases of the several levies on which collections have been made during the past year, with the amounts collected on each levy; also, the gross amounts received for opening, closing and widening and for paving streets, etc.

By this table it will be seen that there has been collected on account of taxes in arrears	$1,356,436 05
On account of levy of 1894	3,583,581 21
For opening, closing and widening streets.	82,477 24
For paving streets	5,223 14
Total	$5,027,717 64

Table C shows the rate of tax per one hundred dollars, and the various items of the several levies from 1889 to 1894, inclusive.

Table D is an exhibit of the monthly receipts on the several levies from 1889 to 1894, inclusive; also receipts for opening, closing, widening streets and alleys, and paving streets and alleys.

Table E exhibits the amounts collected during the past year, in accordance with the rates stated in Table C, divided in separate items forming each levy; also the amount of interest received from accounts in arrears, and the amount of discount allowed for the prompt payment of taxes.

Table F shows the bases and the basis collected upon within each year on the levies of the years 1888 to 1894, inclusive, to December 31 of each year; also on the levy of 1894 from date of levy to December 31, 1894, and the levy of 1893 to December 31, 1894.

Table G shows the percentage collected monthly from January 1, 1894, to May, 1894, on the levy of 1893, and on the levy of 1894 to December 31, 1894, inclusive.

Table H shows the receipts for opening, closing and widening streets and alleys during the year, amounting to $82,477.24.

Table I is a summary of receipts for paving streets from January 1, 1894, to December 31, 1894, inclusive, amounting to $5,223.14.

Table J shows the total amounts collected, the total basis collected upon during the year 1894 in comparison with the same for the year 1893.

Table K is an exhibit of the bases of taxation realized upon on the levies from the year 1877 to 1891, inclusive, in the first twenty wards of the city.

ANNEX DEPARTMENT TWENTY-FIRST AND TWENTY-SECOND WARDS.

On the levy of 1889—present basis, $22,400,840—the total collections have amounted to 100 per cent.

On the levy of 1890—present basis, $23,481,106—the total collections have amounted to $99\frac{70}{100}$ per cent.

On the levy of 1891—present basis, $25,318,299—the total collections have amounted to $99\frac{98}{100}$ per cent.

On the levy of 1892—present basis, $27,460,726—the total collections have amounted to $99\frac{33}{100}$ per cent.

On the levy of 1893, present basis, $27,534,898—the total collections have amounted to $95\frac{65}{100}$ per cent.

On the levy of 1894—present basis, $28,631,531—the total collections have amounted to $69\frac{22}{100}$ per cent.

Table A shows the amount of city and State taxes collected during the past year upon the levies of 1890 to 1894, inclusive, amounting to $223,375; also the basis upon which such collections were made.

Table B shows the basis of the several levies on which collections have been made during the past year, with the amounts collected on each levy, including the amount of interest received from accounts in arrears and the amount of discount allowed for the prompt payment of taxes.

Table C shows the percentage collected on the present basis of the years 1889 to 1894, inclusive, from the dates of the respective levies to December 31, 1894.

In view of the depressed condition of business for the years 1893 and 1894 these exhibits are very gratifying, especially in the matter of taxes in arrears, our collections exceeding our estimate by $127,000, a result due, in a great measure, to persistent effort in this direction.

The department as well as taxpayers continue to be greatly distressed for want of sufficient room for the transaction of business, all efforts to secure more room having been unsuccessful.

With great respect,

Your obedient servant,

LEWIS N. HOPKINS

Collector of State and City Taxes.

TABLES.

TABLE A.

Total City and State Taxes, including the Twenty-first and Twenty-second Wards, Received from January 1, 1894, *to December* 31, 1894, *inclusive.*

1894.	City.	State.	Total.	21st and 22d Wards.		
				City.	State.	Total.
Jan...	$ 769,854 58	$ 79,761 89	$ 849,616 47	$26,405 21	$ 7,349 93	$33,755 14
Feb...	81,803 22	8,904 14	90,707 36	4,016 74	1,168 73	5,185 47
Mar...	68,127 71	7,292 60	75,420 31	3,296 34	941 64	4,237 98
April..	67,742 94	6,967 41	74,710 35	2,648 14	758 32	3,406 46
May ..	2,319,845 91	182,339 01	2,502,184 92	73,542 14	17,119 50	90,661 64
June..	272,918 35	23,401 20	296,319 55	10,380 41	2,955 34	13,335 75
July ..	208,732 25	18,495 01	227,227 26	6,430 95	1,816 38	8,247 33
Aug ..	147,828 75	38,224 60	186,053 35	5,952 92	3,029 28	8,982 20
Sept ..	224,045 13	17,149 97	241,195 10	12,843 31	1,103 85	13,947 16
Oct...	192,344 08	20,033 86	212,377 94	4,790 66	1,273 34	6,064 00
Nov...	235,017 93	49,841 36	284,859 29	7,964 35	788 31	8,752 66
Dec...	439,456 79	15,975 11	455,431 90	21,129 90	5,669 31	26,799 21
	$5,027,717 64	$468,386 16	$5,496,103 80	$179,401 07	$43,973 93	$223,375 00

TABLE A—Concluded.

City	$5,027,717 64	State	$468,386 16
City, 21st and 22d Wards	179,401 07	State, 21st and 22d Wards	43,973 93
	$5,207,118 71		$512,360 09

City	$5,207,118 71
State	512,360 09
Total	$5,719,478 80

TABLE B.

Recapitulation of Taxes Collected from January 1, 1894, *to December* 31, 1894, *inclusive.*

	Basis.	Rate.	Tax.	Discount.	Net Tax.	Interest.	Total, Including Discount and Interest.
1889.							
Real...	$ 13,330	190	$ 253 27	.....	$ 253 27	$ 67 25	$ 320 52
Pers'l..	.....	190	....	.....	.....	....	.....
1890.							
Real...	78,265	185	1,447 89	.....	1,447 89	286 51	1,734 40
Pers'l..	171,060	185	3,164 63	....	3,164 63	652 39	3,817 02
1891.							
Real...	2,116,345	155	32,803 31	.....	32,803 31	4,230 94	37,034 25
Pers'l..	505,155	155	7,829 88	.....	7,829 88	1,058 69	8,888 57
1892.							
Real...	11,520,059	155	178,560 89	.....	178,560 89	15,808 31	194,369 20
Pers'l..	1,702,489	155	26,388 55	....	26,388 55	2,101 57	28,490 12

1893.							
Real...	58,995,118	155	914,424 29	....	914,424 29	8,262 99	922,687 28
Pers'l..	10,199,798	155	158,096 83	....	158,096,83	997 86	159,094 69
	$85,301,619	...	.....	.....	$1,322,969 54	$33,466 51	$1,356,436 05
1894.							
Real...	$154,341,993	170	$2,623,813 85	$ 66,754 35	$2,557,059 50	....	$2,623,813 85
Pers'l..	56,456,905	170	959,767 36	41,645 86	918,121 50	.....	959,767 36
	$210,798,898	...	.....	$108,400 21	$4,798,150 54	$33,466 51	$4,940,017 26

	$4,940,017 26
Opening Streets and Alleys.....	82,477 24
Paving Streets and Alleys.....	5,223 14
	$5,027,717 64

TABLE C.

Rate of Tax per One Hundred Dollars.

	1889	1890	1891	1892	1893	1894
Police Department	27	29	28	25	31	25
Certain Expenses	10	8	9	8	7	8
Public Schools	23	26	23	25	32	32
City Poor	8	10	10	10	11	10
City Direct	79	70	46	43	29	52
Miscellaneous Stocks	35	33	24	30	30	23
Opening Streets	5	6	4	3	4	7
Water Tax	2	2	2	2	2	2
Water 1926 Sinking Fund	½	½	1	1	1	1
Internal Improvement 1928 Sinking Fund	....	½	3	3	3	3
General Sinking Fund	½	....	5	5	5	5
Public Improvement 1940 Loan	....	....	....	....	....	2
	1.90	1.85	1.55	1.55	1.55	1.70

TABLE D.

Monthly receipts of Taxes on the several Levies from 1889 *to* 1894, *inclusive, for Opening Streets and Alleys, and for Paving Streets and Alleys from January* 1, 1894, *to December* 31, 1894, *inclusive.*

1894.	1889.	1890.	1891.	1892.	1893.	1894.	Opening Streets.	Paving Streets.	Total.
January	$125 48	$ 260 25	$11,818 69	$29,975 95	$726,411 14	.....	$1,263 07	.....	$ 769,854 58
February	.....	571 72	11,909 08	16,244 46	52,802 34	.....	275 62	.....	81,803 22
March	132 39	1,050 22	10,721 58	18,444 32	37,470 91	.....	270 00	$ 38 29	68,127 71
April	.....	1,239 07	3,280 79	17,594 92	40,227 79	.....	2,977 04	2,423 33	67,742 94
May	.....	860 45	2,904 98	20,322 53	27,191 64	$2,265,156 56	2,697 24	712 51	2,319,845 91
June	.....	11 15	1,010 27	13,790 26	28,463 72	201,365 93	27,974 28	302 74	272,918 35
July	.....	.....	854 61	11,533 30	29,897 66	156,347 95	10,098 73	.....	208,732 25
August	.....	64 06	1,268 61	6,299 96	29,669 15	102,714 93	7,812 04	.....	147,828 75
September	.....	.....	396 18	7,421 59	32,278 66	174,593 01	9,355 69	.....	224,045 13
October	.....	113 31	454 38	17,015 87	27,171 72	146,665 33	923 47	.....	192,344 08
November	62 65	58 16	837 62	52,429 94	21,547 71	155,203 97	3,131 61	1,746 27	235,017 93
December	.....	1,323 03	466 03	11,786 22	28,649 53	381,533 53	15,698 45	.....	439,456 79
	$320 52	$5,551 42	$45,922 82	$222,859 32	$1,081,781 97	$3,583,581 21	$82,477 24	$52,231 14	$5,027,717 64

TABLE E.

Division of Taxes received from January 1, 1894, *to December* 31, 1894, *inclusive.*

	1889.	1890.	1891.	1892.	1893.	1894.	Total.
Police Department	$ 35 99	$ 723 05	$ 7,340 17	$ 33,056 39	$ 213,429 27	$ 511,056 06	$ 765,640 93
Certain Expenses	13 33	199 46	2,359 42	10,577 95	48,615 59	163,537 91	225,303 66
Public Schools	30 66	648 27	6,029 44	33,056 40	220,169 55	654,151 72	914,086 04
City Poor	10 66	249 33	2,621 51	13,222 51	75,935 25	204,422 41	296,461 67
City Direct	105 30	1,745 28	12,059 01	56,856 94	203,173 44	1,062,996 58	1,336,936 55
Miscellaneous Stocks	46 66	822 76	6,291 57	39,667 66	207,584 75	470,171 54	724,584 94
Opening Streets	6 67	149 58	1,048 57	3,966 74	27,498 80	143,095 67	175,766 03
Water Tax	2 67	49 85	524 28	2,644 50	13,839 01	40,884 49	57,944 80
Water 1926 Sinking Fund	66	12 47	262 15	1,322 28	6,919 50	20,442 23	28,959 29
Internal Imp. 1928 Sinking Fund		12 47	786 35	3,966 81	20,758 52	61,326 73	86,850 88
General Sinking Fund	67		1,310 72	6,611 26	34,597 44	102,211 19	144,731 28
Public Improvement 1940 Loan						40,884 47	40,884 47
	$253 27	$4,612 52	$40,633 19	$204,949 44	$1,072,521 12	$3,475,181 00	$4,798,150 54
Interest	67 25	938 90	5,289 63	17,909 88	9,260 85		34,466 51
Discount						108,400 21	108,400 21
	$320 52	$5,551 42	$45,922 82	$222,859 32	$1,081,781 97	$3,583,581 21	$4,940,017 26
Opening and closing streets and alleys							82,477 24
Paving streets and alleys							5,223 14
							$5,027,717 64

TABLE F.

Of percentage collected within the year on Levies of 1888 to 1893, to December 31, 1893; also on Levy of 1894, from date of Levy to December 31, 1894; also on Basis of 1893. to December 31, 1894.

Year.	Basis.	Basis Collected Upon.	Per Cent.
1888	$267,078,210	$190,212,983	71.22
1889	270,217,863	193,061,621	71.45
1890	275,710,432	193,856,812	70.31
1891	278,398,105	201,662,443	72.44
1892	282,720,820	205,802,258	72.79
1893, to Dec. 31, 1893.	290,309,113	201,433,295	69.38
1894, to Dec. 31, 1894.	292,090,946	210,798,898	72.17
1893, to Dec. 31, 1894.	284,547,988	270,628,211	95.11

TABLE G.

Showing the Percentage Collected Monthly from January 1, 1894, to May. 1894, on Levy of 1893, and on Levy of 1894 from May, 1894, to December 31, 1894, inclusive.

Basis.	Months.	Basis Collected Upon.	Per Cent.
1893. $290,309,113	January	$46,865,245	16.17
	February	3,389,655	1.16
	March	2,393,543	.82
	April	2,556,988	.87
		$ 55,205,431	19.02
1894. $292,090,946	May	133,244,504	45.61
	June	11,845,055	4.06
	July	9,196,939	3.13
	August	6,042,055	2.06
	September	10,270,177	3.51
	October	8,627,373	2.98
	November	9,129,646	3.13
	December	22,443,149	7.69
		$210,798,898	72.17

Basis, December 31, 1894	$292,090,946
Less plant exemption	3,172,950
	$288,917,996

Amount collected on $210,798,898 equal to 72.76 per cent.

TABLE H.

Summary of Receipts for Opening and Closing Streets and Alleys from January 1, 1894, to December 31, 1894, inclusive.

Whitelock street	$ 552 50
Collington avenue	13,227 37
Stockholm street	4,909 75
Port alley	2,496 24
Jew alley	493 83
Bouldin alley	2,973 56
Federal street	9,375 62
McCulloh "	165 00
Ward "	984 79
Chew "	3,642 99
Clement "	2,076 00
Madison "	1,583 85
Etting "	936 00
Randall "	3,642 50
St. Paul "	108 00
Webster "	529 50
Townsend "	7,400 00
Chase "	4,672 00
Bethel "	3,422 78
Covington "	2,950 00
Fourth "	474 15
Durham "	520 11
Brice alley	1,590 00
Fayette street	13,750 70
	$82,477 24

TABLE I.

Summary of Receipts for Paving Streets and Alleys from January 1, 1894, to December 31, 1894, inclusive.

Fairmount avenue	$3,476 87
Patterson Park avenue	1,746 27
	$5,223 14

TABLE J.

Shows the total amounts collected, the total Basis collected upon during the year 1894, on Taxes in Arrears and on Levy of 1894, in comparison with the same for the year 1893.

The total amounts collected in 1894 were:

On taxes in arrears	$ 85,301,619	$1,356,436 05
On Levy of 1894	210,798,898	3,583,581 21
Total	$296,100,517	$4,940,017 26

The total amounts collected in 1893 were:

On taxes in arrears	$ 68,105,926	$1,084,015 46
On Levy of 1893	201,433,295	$3,122,216 03
Total	$269,539,221	$4,206,231 49

SUMMARY.

1894, taxes in arrears	$85,301,619	$1,356,436 05
1893, " "	68,105,926	1,084,015 46
1894, on Levy of 1894	$210,798,898	$3,583,581 21
1893, " " 1893	201,433,295	3,122,216 03

TABLE K

Is an exhibit of the Basis of Taxation realized upon in the first twenty wards of the City on the Levies from the years 1877 to 1891, inclusive.

Year.	Total basis realized upon.	Increase.	Decrease.
1877	$233,664,251		
1878	227,424,677		$6,239,574
1879	229,254,146	1,829,469	
1880	235,322,164	6,068,018	
1881	240,416,582	5,094,418	
1882	241,671,879	1,255,297	
1883	242,692,143	1,020,264	
1884	245,885,024	3,192,881	
1885	249,198,435	3,313,411	
1886	251,637,320	2,438,885	
1887	260,286,192	8,648,872	
1888	261,910,095	1,623,903	
1889	266,868,823	4,958,728	
1890	270,967,053	4,098,230	
1891	274,190,369	3,223,316	
	Increase	$46,756,692	

These are the basis actually collected upon, and represent the entire taxable valuations for those years, showing an increase from 1878 to 1891 of $46,756,692. For the years 1892, 1893 and 1894 the actual available basis has not yet been ascertained.

TABLE A.

Twenty-first and Twenty-second Wards.

The collections for the Twenty-first and Twenty-second Wards during 1894 were $179,401.07, of which there were collected on—

Levy of 1890	$	230 07
" 1891		1,494 04
" 1892		6,296 75
" 1893		52,475 42
" 1894		118,904 79
	$179,401	07

The basis collected on were:

Levy of 1890	$	31,932 00
" 1891		220,392 00
" 1892		965,918 00
" 1893		8,617,054 00
" 1894		19,817,470 00

The amount of State taxes collected on were:

Levy of 1890	$	56 66
" 1891		391 18
" 1892		1,726 80
" 1893		12,254 28
" 1894		29,545 01
	$43,973	93

Total, City	$179,401	07
" State	43,973	93
	$223,375	00

TABLE B—TWENTY-FIRST AND TWENTY-SECOND WARDS.

Recapitulation of Taxes Collected from January 1, 1894, to December 31, 1894, inclusive.

	Basis.	Rate.	Tax.	Discount.	Net Tax.	Interest.	Total, Including Discount and Interest.
1890.							
Real. } P'rs'l }	$ 31,932	60	$ 191 58	.....	$ 191 58	$ 38 49	$ 230 07
1891.							
Real. } P'rs'l }	220,392	60	1,322 34	.....	1,322 34	171 70	1,494 04
1892.							
Real. } P'rs'l }	965,918	60	5,795 50	.....	5,795 50	501 25	6,296 75

1893.							
Real...	6,375,117	60	38,250 66	.....	38,250 66	400 32	38,650 98
Pers'l..	2,241,937	60	13,451 61	....	13,451 61	372 83	13,824 44
	$9,835,296	...	.....	.....	$59,011 61	$1,484 59	$60,496 28
1894.							
Real...	$15,210,199	60	$91,261 18	$2,363 22	$88,897 96	.....	$91,261 18
Pers'l...	4,607,271	60	27,643 61	921 03	26,722 58	.....	27,643 61
	$19,817,470	...	.....	$3,284 25	$174,632 23	$1.484 59	$179,401 07

TABLE C.

Twenty-first and Twenty-second Wards.

Showing the percentage collected on the present Basis of 1889 to 1894 inclusive, from the dates of the respective Levies to December 31, 1894.

Year.	Present Basis.	Basis collected upon.	Per Cent.
1889	$22,400,840	$22,400,840	100 00
1890	23,481,106	23,408,336	99 70
1891	25,318,299	25,313,285	99 98
1892	27,460,726	27,277,490	99 33
1893	27,534,898	26,337,311	95 65
1894	28,631,531	19,817,470	69 22

ANNUAL REPORT

OF THE

BOARD OF VISITORS

OF THE

Jail of Baltimore City

TO THE

MAYOR AND CITY COUNCIL OF BALTIMORE,

FOR THE

FISCAL YEAR ENDING DECEMBER 31, 1894.

OFFICERS

OF THE

BALTIMORE CITY JAIL,

1894.

BOARD OF VISITORS:

HON. F. C. LATROBE, *Ex-Officio*,
JOHN RICHARDSON,
ROBERT C. DAVIDSON,
HARRY F. TURNER,
HIRAM G. DUDLEY,
A. C. N. MATTHEWS,
AUGUST BERKEMEIER.

PRESIDENT OF THE BOARD:

JOHN RICHARDSON.

SECRETARY TO THE BOARD:

ROBERT C. DAVIDSON.

WARDEN:

DANIEL CONSTANTINE.

COMMITTEES:

FINANCE:
DAVIDSON,
TURNER.

REPAIRS:
BERKEMEIER,
DAVIDSON.

DISCIPLINE:
RICHARDSON,
TURNER,
BERKEMEIER.

SUPPLIES:
MATTHEWS,
DUDLEY.

SANITARY:
TURNER,
MATTHEWS.

REPORT.

BALTIMORE, January 1, 1895.

To the Honorable the Mayor and
City Council of Baltimore:

GENTLEMEN:

We herewith present our annual report for the year ending December 31, 1894.

You will find in the Warden's report and Exhibits A, B, C and D the receipts and disbursements, the number of prisoners received, their offences and their dispositions. Out of the appropriation, $55,000, we have expended during the year $54,110.31, leaving a balance in the hands of the City Comptroller of $889.69; in addition to which we have paid to the City Comptroller $6,877.40, received from various sources, as shown in the Warden's report, making the expenses of the Jail for the entire year to the city $47,232.91.

In order to maintain properly the institution we be-

lieve the sum of $55,000 will be required, and ask that your appropriation be fixed at that figure.

The sanitary condition of the Jail during the year, under the skillful direction of Dr. Milton N. Taylor, has been entirely satisfactory.

For the high standard of discipline maintained during the year the Warden, Mr. Daniel Constantine, and his efficient deputies have earned our unqualified approval.

All labor and ordinary repairing has been done by prisoners.

FERDINAND C. LATROBE, Mayor,
Ex-Officio Member

JOHN RICHARDSON,
ROBERT C. DAVIDSON, *Secretary,*
HIRAM G. DUDLEY,
A. C. N. MATTHEWS,
H. F. TURNER,
AUGUST BERKEMEIER,

Board of Visitors.

REPORT OF THE WARDEN.

REPORT.

BALTIMORE, January 1, 1895.

To the Honorable the Board of Visitors
of Baltimore City Jail:

GENTLEMEN:

I have the honor to submit herewith my annual report of the operations and general conduct of the Baltimore City Jail for the year ending December 31, 1894.

The number of prisoners committed for drunkenness and minor offenses was 8,264; for trial, 2,842; for House of Correction, 364; for House of Refuge, 2; for Industrial School for Colored Girls, 3; for House of Reformation, 39; for House of Good Shepherd for Colored Girls, 2. Total for the year, 11,516.

The daily average of prisoners for the year was 538. This is forty-two in excess of the previous year.

This addition to the number of prisoners for each day

in the year required the furnishing of 38,325 more meals the past year than for 1893. It is probable that the operation of what is termed the seven-day law may cause some slight increase of what we call peace cases. This could be obviated, if, as recommended in my last report, the law was amended so as to give the Board of Visitors the power to fix the time within the limits, which is four months, the Police Justice fixing the fine.

There was paid into the city treasury the past year $6,877.40, a decrease of $358.81 from 1893. In this amount is included $2,336.64 due from Beebe's contract for 1893; from Baltimore county, for board of prisoners for 1893, $19.00; discount on bills for 1893, $24.76; United States docket for 1893, $213.10, leaving the net earnings as turned in, $4,283.90. There is still due, which we expect to collect during the present year on Beebe's contract, $2,095.70; United States docket, $243.80; Somerset county, for board of prisoners, $930.50; Baltimore county, $10.00; Harford county, $17.00; Anne Arundel county, $6.50; Calvert county, $18.00; Kent county, $16.00. This makes the earnings of the Jail for 1894, $7,621.40, an increase of $224.81 over last year.

The appropriation of the Mayor and City Council for the maintenance of the Jail for the year of 1894 was.....$55,000 00

Of this there was expended for officers' salaries, physician, gardener and baker	26,858 84
Subsistence of prisoners	11,262 30
Private subsistence, hospital diet, board and incidentals	2,238 65
Fuel and light	6,754 09
Hospital	448 69
Expenses	2,174 67
Sanitary	1,570 76
Clothing and dry goods	2,802 31
	$54,110 31
Balance in Comptroller's hands	889 69
Total appropriation	$55,000 00
Amount paid Comptroller, derived from various sources	6,877 40

The annual cost of maintaining prisoners per capita was $100.58, food alone being $20.93; per day, 5¾ cents.

The above figures will show that every care has been taken to prevent waste.

The health and general good condition of the prisoners is evidence that they received in quantity all they wanted and the best of its kind. This is very gratifying.

We have kept one hundred prisoners constantly at

work on the contract entered into by the Board of Visitors with Mr. Charles S. Beebe. The balance of them have been kept on the various works about the building and premises.

The mechanics among them have been utilized at their various trades. It is necessary to keep constantly at work to keep up the wear and tear and its good sanitary condition.

The most important of the improvements added to the Jail the past year has been the electric plant, by which the lights are kept directly under control of the Jail authorities. One very desirable advantage gained by the change is that any part of the plant can be handled without danger to life or limb. After some little changes and additions it will be much more economical and satisfactory.

The pavement in front of the annex, which was in a dilapidated condition, has been relaid with granolithic in a substantial manner. There has been a great deal of work done in the tin shop; a large quantity of guttering and spouting made and put up the past year. All of the tinware used in the culinary department and all other parts of the institution were made by prisoners. There has been a great deal of painting done; all of the interior of the building has been painted; the annex and offices have also been renovated. There has been a great deal of carpentering, bricklaying, pipe-fitting,

glazing, and all other work necessary to keep up the good, satisfactory condition of the prison, which is no small job, considering the area of the grounds and buildings, and the age of same (nearly forty years); it will be seen requires a large amount of material. The Building Inspector furnished a large part of it, but his appropriation for repairs becoming exhausted a considerable amount had to be expended out of the appropriation for the maintenance of the Jail.

The roof put on the south wing of the prison has been completed, and it is now fire-proof beyond all question. The safety bars have been adjusted to the dormer windows and it is apparently well done. We can safely say that the institution is at least up to its usual status.

There was a large quantity of work done in the female department the past year, which shows that the female prisoners are kept constantly at work. This, and the excellent state of health of the inmates, is conclusive that the matrons have exercised the greatest care and watchfulness over their charges.

Pieces washed	125,236
" mended	5,527
Overalls made	696
Shirts "	939
Pillow cases	485
Dresses	92
Bed spreads	90
Sheets hemmed	930
Towels "	206
Miscellaneous	159
Total number pieces handled	134,360

The physician to the Jail, Milton N. Taylor, M.D., reports the sanitary condition of the Jail first-class. The Doctor has done all that laid in his power for the relief of the unfortunate inmates requiring his services. The Doctor's report shows 3,356 patients treated during the year. Of this number two died—James McClure (white) died of consumption and Michael Kidd (white) died of disease unknown.

In accordance with the powers vested in the Board of Visitors of Baltimore City Jail by act of the Legislature there was transferred from the City Jail to other institutions fourteen persons.

I beg leave to submit for your consideration the following estimates for the fiscal year now commencing:

Salaries of officers	$27,000 00
Subsistence of prisoners	13,000 00
Private subsistence, hospital diet, etc	2,000 00
Fuel and light	7,500 00
Incidental expenses	2,000 00
Sanitary	1,000 00
Clothing and dry goods	2,000 00
Hospital	500 00
	$55,000 00

Appropriation for the maintenance of the Jail.

There has been a number of improvements made in the institution the past year, and it would add much to the appearance of the basements of the different sections and much to improve its sanitary condition if we had a granolithic or some other improved pavement laid in them.

To compare with the appearance of the grounds in the front yard a new pavement of some kind would seem to be a necessity.

Accompanying this report you have statements :

Exhibit A showing monthly average of prisoners.

Exhibit B showing the number of prisoners committed for various causes.

Exhibit C showing the number of prisoners discharged.

Exhibit D showing the receipts and expenditures for the year.

To our worthy chaplains, Father Boone and Rev. Zinkand, and their assistants, are due the thanks of the community for their self-sacrificing efforts for the spiritual and moral welfare of the prisoners.

I will take this occasion to commend the officers for

their faithful discharge of duty, and thank them for the aid they one and all rendered me in conducting the affairs of the institution.

And in conclusion, gentlemen, I tender my most hearty thanks to you for the uniform kindness and encouragement you have extended me in the past year. All of which is

Respectfully submitted,

DANIEL CONSTANTINE,

Warden.

EXHIBIT A.

Showing the Monthly or Daily Average of Prisoners from January 1, 1894, to December 31, 1894.

1894.	
January	584
February	570
March	563
April	484
May	489
June	443
July	498
August	537
September	566
October	534
November	544
December	638
Total	6,450
Daily average for 1894	538
" " 1893	496
" " 1892	467
" " 1891	497
" " 1890	522
" " 1889	471

Highest number in Jail during 1894 was 719—December 27.

Lowest number in Jail during 1894 was 391—June 1.

EXHIBIT B.

Showing the number of Prisoners Committed for various causes during the year ending December 31, 1894.

Crimes.	WHITE.			COLORED.			Grand Total.
	Men.	Women.	Total.	Men.	Women.	Total.	
Peace and drunkenness	4892	483	5375	2194	695	2889	8264
Larceny	715	33	748	559	103	662	1410
Assault and battery	472	27	499	384	47	431	930
Assault to kill	42	1	43	21	2	23	66
False pretenses	96	1	97	51	.....	51	148
Burglaries	126	.....	126	55	3	58	184
Embezzling	33	.....	33	7	.....	7	40
Forgery	16	.....	16	.....	.....	.....	16
Writing and selling policies	36	.....	36	47	3	50	86
Illegal registration	9	.....	9	3	.....	3	12
Attempting to vote illegally	3	.....	3	.....	.....	.....	3
Violating pension laws	3	.....	3	2	1	3	6
Violating internal revenue laws	6	.....	6	1	2	3	9
Selling liquor on Sundays etc	4	.....	4	.....	.....	.....	4

Perjury	9		9				9
Bigamy	6		6				6
Common thief, etc	1		1	2		2	3
Keeping gaming house	1		1	1		1	2
Witness, State and United States	23	1	24	5	1	6	30
Mutiny	26		26				26
Enticing minors for prostitution	4	1	5	2		2	7
Receiving stolen goods	7		7	4	2	6	13
Rape and attempt	6		6	6		6	12
Passing counterfeit coin	12	5	17	5		5	22
Infanticide		1	1				1
Keeping opium joint		1	1				1
Smuggling	3		3				3
Bastardy	1		1	1		1	2
Abortion	3		3				3
Selling liquor without license	10	2	12	3	1	4	16
Murder	13		13	13		13	26
Suspicious characters	3		3	3		3	6
Mayhem	1		1	1		1	2
Voting illegally	1		1				1
Cruel treatment to seamen							
Arson	1		1	1		1	2
Criminal negligence							
Indecent exposure	12		12	7		7	19
Indecent publication							

EXHIBIT B—Continued.

Crimes.	White.			Colored.			Grand Total.
	Men.	Women.	Total.	Men.	Women.	Total.	
Violating postal laws	10	3	13	.....	.....	.....	13
Selling liquor to minors	2	.....	2	.....	.....	.....	2
Robbing postoffice	4	.....	4	.....	.....	.....	4
Abduction	1	.....	1	.....	.....	.....	1
Attempt to steal	10	.....	10	4	2	6	16
Carnal knowledge	1	.....	1	2	.....	2	3
Bribery	1	.....	1	.....	.....	.....	1
Attempting to pass counterfeit coin	.....	1	1	1	.....	1	2
Oleomargarine laws	11	.....	11	.....	.....	.....	11
Gambling	6	.....	6	4	.....	4	10
Bawdy house	.....	12	12	1	7	8	20
Riding on railroad cars unauthorized	15	.....	15	5	.....	5	20
Conspiracy	5	1	6	.....	.....	.....	6
Sweating coins	1	.....	1	.....	.....	.....	1
Personating government officer	.....	.....	.....	1	.....	1	1

Counterfeiting	2	3	5	.....	.....	.....	5
Sodomy	1	.....	1	.....	.....	.....	1
Fraudulent trick	5	.....	5	4	.....	4	9
Total	6671	576	7247	3400	869	4269	11516

EXHIBIT C.

Showing the number of Prisoners Committed and how Discharged for the year ending December 31, 1894.

Total number of prisoners committed.....			11,516
Sent to Maryland Penitentiary:			
White men.....	51		
" women.....	4		
		55	
Colored men.....	28		
" women.....	7		
		35	
Sent to Bay View Asylum:			
White men.....	3		
" women.....	1		
		4	
Colored men.....	1		
" women.....	1		
		2	
Sent to City Hospital:			
White men.....		3	
Sent to Industrial School for Col-			
Colored Girls.....		3	
Sent to House of Refuge.....		2	
Died in Jail:			
White men.....		2	
Amounts carried forward.....		106	11,516

Amounts brought forward.....	106	11,516
Sent to Mount Hope Retreat:		
White men.....	1	
Sent to House of Good Shepherd for Colored Girls.....	2	
Sent to House of Reformation for Colored Boys.....	39	
Sent to Spring Grove Asylum:		
White men.....	3	
Removed Cases:		
White men..... 1		
Colored men..... 3		
	4	
Sent to House of Correction:		
White men..... 257		
" women..... 30		
	287	
Colored men..... 67		
" women..... 10		
	77	
Pardoned by the Governor:		
White men..... 4		
" women..... 1		
	5	
Discharged by Courts, Magistrates, expiration of sentences and otherwise.....	10,378	
Remaining in Jail December 31, 1894.....	614	
		11,516

EXHIBIT D.

Dr.

Appropriation from Mayor and City Council..	$55,000 00
	$55,000 00

Earnings for the

Received from Chas. H. Beebe on contract work.	$5,593 16
Rec'v'd from U. S. Gov't, board for prisoners..	905 20
" Prince George's co., b'd for pris'n'rs	56 50
" Baltimore county, "	19 00
" Queen Anne's county, "	8 00
" Harford county, "	6 50
" Penna. authorities, "	6 00
" New York " "	3 00
" Virginia " "	2 00
" Delaware " "	11 00
" sale of old wagon and carriage...	30 60
" discount on bills.....	24 76
" sale of empty barrels.....	185 40
" sale of old bones and iron.....	24 05
" sale of stamps and postals.....	2 23
	$6,877 40

EXHIBIT D.

Cr.

Officers' salaries, physician, gardener and baker	$26,858	84
Subsistence of prisoners	11,262	30
Private subsistence, hospital diet, etc	2,238	65
Fuel and light	6,754	09
Hospital	448	69
Expense	2,174	67
Sanitary	1,570	76
Clothing and dry goods	2,802	31
	$54,110	31
Balance in Comptroller's hands, 1894	889	69
	$55,000	00

year of 1894.

Paid to City Comptroller	$6,877	40
	$6,877	40

PHYSICIAN'S REPORT.

HOSPITAL DEPARTMENT,

BALTIMORE, January 1, 1895.

To the Board of Visitors Baltimore City Jail:

I respectfully beg to submit to your Honorable Board the enclosed report of the sanitary condition of the City Jail for the year ending December 31, 1894.

I find the sanitary arrangements in excellent condition, and entirely adapted to the needs and comforts of the inmates. The order and cleanliness noticeable in every department are really remarkable. The discipline, though strict, is never unnecessarily severe, and not a case of unmerited punishment has come under my notice yet. It could hardly be otherwise under the direction of such a judicious Board of Visitors, and with such a competent Warden and corp of deputies as the Board has selected to carry into effect their suggestions. The annex is also most ably conducted under

the management of Mrs. Causey and her able assistant, Mrs. Bishop. They have one and all been united in their efforts to co-operate with me in carrying out my directions, and have thereby made my duties a pleasure, for which I desire to express my sincere gratitude.

MILTON N. TAYLOR, M.D.,

Physician Baltimore City Jail.

ANNUAL REPORT FOR 1894.

From January 1, 1894, to December 31, 1894.

Alcoholism	770	Heart Disease	23
Asthma	25	Hemorrhages	2
Abscess	10	Headache	5
Bubo	18	Heart Burn	2
Bronchitis	82	Insanity	4
Burns	6	Lumbago	3
Bright's Disease	4	Mania-a-potu	10
Blood Poisoning	4	Malaria	180
Boils	3	Morphine Habit	2
Colds and Coughs	270	Neuralgia	152
Chancroid	132	Nervous Debility	40
Constipation	193	Opium Habit	1
Conjunctivitis	38	Pneumonia	5
Consumption	9	Pleurodynia	22
Cramps	34	Pedicula Pubi	32
Catarrh	60	Pharyngitis	82
Confinement	2	Rheumatism	160
Cellulitis	118	Ring Worms	1
Diarrhœa	60	Rupture	1
Dysmenorrhœa	7	Sprains	91
Dyspepsia	21	Syphilis	101
Dropsy	5	Stricture	7
Dog Bite	2	Scabbies	20
Dysentery	6	Toothache	60
Erysipelas	4	Teeth Extracted	46
Eczema	5	Tumor	53
Epilepsy	8	Uticaria	3
Earache	22	Ulcers	6
Felon	2	Ulcerated Throat	7
Fracture	10	Venerial Worts	49
Frost Bites	5	Wounds—gunshot	110
Gonorrhœa	27		
Gleet	130		3,356
Hemorrhoids	12		

SUMMARY.

White males	1,516
White females	254
Colored males	1,278
Colored females	308
Total	3,356

RESULT OF TREATMENT.

Cured	2,810
Relieved	531
Died	2
Under treatment	11
Births	2
Total	3,356

SENT TO BAY VIEW ASYLUM, ETC.

White males	2
White females	1
Colored males	0
Colored females	0
Total	3

September 20, 1894.—Kate Lyons, aged 25 years; Lawrence Rice, aged 43 years.

December 13, 1894.—William Butler, aged 40 years, as insane.

CITY HOSPITAL.

October 6, 1894.—E. Lober, contused wound.

November 11, 1894.—D. Nalrit, fractured arm.

SENT TO SPRING GROVE ASYLUM.

White men	3

SENT TO MOUNT HOPE RETREAT.

White men	1

ANNUAL REPORT

—— OF THE ——

Judges of the Appeal Tax Court

—— TO THE ——

MAYOR AND CITY COUNCIL OF BALTIMORE,

—— FOR THE ——

FISCAL YEAR ENDING DECEMBER 31, 1894.

REPORT.

APPEAL TAX COURT—CITY HALL,

BALTIMORE, January 1, 1895.

To the Honorable the Mayor
and City Council of Baltimore:

GENTLEMEN:

We beg leave herewith to submit the result of the labor of this department for the year ending on the 31st day of December, 1894.

Tabular statement A shows the taxable basis charged to the City Collector for the years 1891 to 1894, both inclusive, with the assessments added to each, and the collection and abatement on each.

Table B exhibits by wards the number of building permits issued during the year.

Table C, the Assessors' report, shows the number of new buildings and additional improvements assessed by the Court's Assessor, the wards in which they are severally located, and the detailed and aggregate valuation of the same.

Following these tables will be found the reports, respectively, of the Assessors for Real Estate and the Bailiffs.

TABLE A.

Statement of Property for Each Year Charged to the City Collector December 31, 1894.

1894.	1891.	*Real.*	*Personal.*
Jan. 1.	To amount of assessment remaining unpaid Janu- 1st, 1894.....	$1,207,195	$1,543,573
Dec. 31.	To new assessments to cover refunds.	1,069,049	.....
		$2,276,244	$1,543,573
Jan. 31.	By abatements....	$2,131	$147,721
Feb. 28.	" "	9,729	167,135
Mar. 31.	" "		111,920
April 30.	" "	700	152,625
May 31.	" "	1,633	53,287
June 30.	" "		43,208
July 31.	" "	750	4,641
Aug. 31.	" "		24,300
Sept. 26.	" "		33,824
Oct. 31.	" "	650	14,178
Nov. 30.	" " ...	875	500
Dec. 31.	" "	296	70,558
" "	" amount collected during 1894..	2,116,345	505,155
" "	" amount remaining uncollected..	143,135	214,521
		$2,276,244	$1,543,573

TABLE A—Continued.

1894.	1892.	*Real.*	*Personal.*
Jan. 1.	To amount remaining uncollected, January 1, 1894.	$11,642,303	$3,382,069
Dec. 31.	To amount new assessment.....	2,000	3,500
		$11,644,303	$3,385,569
Jan. 31.	By abatements....	$ 631	$407,950
Feb. 28.	" "	11,229	226,565
Mar. 21.	" "	5,300	211,242
April 30.	" "	3,700	322,720
May 31.	" " ...	3,558	131,369
June 30.	" "	968	90,927
July 31.	" "	1,100	69,220
Aug. 31.	" "		1,650
Sept. 26	" "	23,884	88,990
Oct. 31.	" "	9,100	46,429
Nov. 30.	" "	1,500	8,050
Dec. 31.	" "	696	130,900
" "	"amount collected during 1894....	11,520,059	1,702,489
" "	"amount remaining uncollected.	62,578	547,068
		$11,644,303	$3,385,569

TABLE A—Continued.

1894.	1893.	*Real.*	*Personal.*
Jan. 1.	To amount remaining uncollected January 1, 1894.	$71,770,332	$17,105,486
April 17.	To amount new assessments.....	2,630	254,569
" "	To amount new assessments.....		66,000
May 31.	To amount new assessments.....		26,880
Dec. 31.	To amount new assessments.....	2,900	4,000
		$71,775,862	$17,456,935

TABLE A—Continued.

1894.	1893.	*Real.*	*Personal.*
Jan. 31.	By abatements	$ 119,450	$ 770,492
Feb. 28.	" "	46,806	445,775
Mar. 31.	" "	76,930	354,126
April 17.	" "		294,518
May 31.	" "	14,316	481,764
June 30.	" "	27,429	248,489
July 31.	" "	79,500	60,994
Aug. 31.	" "	16,638	5,340
Sept. 26.	" "	46,239	286,729
Oct. 31.	" "	826,885	151,709
Nov. 30.	" "	6,700	48,775
Dec. 31.	" " . ..	2,796	283,170
" "	" " plant		1,422,534
" "	By amount collected during 1894...	58,995,118	10,199,798
" "	By amount remaining uncollected...	11,517,055	2,402,722
		$71,775,862	$17,456,935

TABLE A—Continued.

1894.		*Real.*	*Personal.*
Apr. 17.	To amount of assessment of 1893 remaining as portion of assessment for1894,less Incorporated Companies.....	$216,238,045	$41,339,176
May 31.	To amount of assessment, judgments Superior Court.....		155,614
" "	To amount of assessment, judgments CityCourt.		94,385
" "	To amount of assessment, judgment Common Pleas Court....		51,163
" "	To amount of new assessments.....	4,101,336	68,928
" "	To amount of new assessments.....	19,130	1,169,770
" "	To amount of new assessments.....	2,333,683	
Dec. 31.	To amount of new assessments.....	35,431	1,380,796
" "	To amount of Incorporated Companies.....		29,841,787
		$222,727,625	$74,101,619

TABLE A—Continued.

1894.			*Real.*	*Personal.*
May 31.	By abatements....	$	657,105	$1,438,384
June 30.	" "		114,817	436,566
July 31.	" "		158,942	377,301
Aug. 31.	" "		44,277	25,705
Sept. 26.	" "		64,178	298,428
Oct. 31.	" "		48,009	290,132
Nov. 30.	" "		55,250	97,263
Dec. 31.	" "		79,980	551,961
"	By amount collected during 1894.....		154,341,993	56,456,905
"	By amount remaining uncollected..		67,163,074	14,128,974
			$222,727,625	$74,101,619

RECAPITULATION.

Amount for Different Years that is Charged to the City Collector January 1, 1895.

1891—Real	$143,135	
Personal	214,521	
		$ 357,656
1892—Real	$ 62,578	
Personal	547,068	
		609,646
1893—Real	$11,517,055	
Personal	2,402,722	
		13,919,777
1894—Real	$67,163,074	
Personal	14,128,974	
		81,292,048
		$96,179,127
Less amount of plant, 1894		1,173,599
		$95,005,528
Amount of exemption of plant of Incorporated Companies		$1,999,351

TABLE B.

The Number of Permits Issued from January 1, 1894, to December 31, 1894, for New Buildings and Improvements were:

Wards.	New Improvements.	Additional Improvements.	Total.
1	194	76	270
2	5	19	24
3	4	22	26
4		13	13
5	91	21	112
6	19	12	31
7	313	46	359
8	120	17	137
9	8	23	31
10	9	20	29
11	44	29	73
12	51	15	66
13	1	11	12
14	2	13	15
15	9	20	29
16	24	24	48
17	115	34	149
18	130	37	167
19	278	40	318
20	8	22	30
	1,425	514	1,939
21	571	94	665
22	431	52	483
	1,002	146	1,148

To the Honorable the Judges
of the Appeal Tax Court:

GENTLEMEN:

I most respectfully submit the following as my report for the year ending December 31, 1894, of the number of new and additional improvements, the several wards in which they are located, and assessed value of the same.

TABLE C.

Wards.	New Improvements.	Additional Improvements	Value.
1	220	65	$196,150
2	3	19	7,750
3		20	5,900
4	2	12	6,100
5	79	9	83,650
6	26	12	32,700
7	347	48	333,600
8	115	15	239,700
9	25	17	704,750
10	14	16	738,800
11	31	15	517,550
12	94	7	462,700
13	5	2	6,450
14	4	7	158,500
15	9	9	42,400
16	35	12	68,700
17	109	15	195,250
18	114	22	144,150
19	366	39	419,700
20	62	19	95,350
	1660	380	$4,459,850

*Of this amount $1,449,450 went in basis of 1894.

Very respectfully,

JOSHUA D. TAYLOR,
Assessor of New Property.

PLANT.

The exemption from city taxes for plant in 1894 aggregate a total of $1,173,599 to individuals, and exemption to incorporated companies, $1,999,351; total $3,172,950.

REFUNDS.

From January 1st, 1894, to January 1st, 1895, there have been one hundred and six (106) orders for refunding of taxes given generally to parties who have paid in error, either as double payments or on wrong property, or have paid on old improvements torn down, as well as on the new improvements.

TRANSFERS.

From January 2d, 1894, to February 15th, 1894..	2,354
From May 18th, 1894, to December 31st, 1894...	5,162
	7,516

TAX DEPARTMENT,

CITY COLLECTORS' OFFICE—CITY HALL.

BALTIMORE, January 1, 1895.

To the Honorable the Judges
of the Appeal Tax Court:

GENTLEMEN:

The undersigned reports the Bailiffs' Department as having made assessments of personal property to March

1, 1894, of the following amount: One million one hundred and sixty-nine thousand seven hundred and seventy ($1,169,770) dollars.

Respectfully submitted,

P. SCANLAN,

Bailiff.

BOARD OF ASSESSORS—CITY HALL,

BALTIMORE, January 8, 1895.

To the Honorable the Judges
of the Appeal Tax Court:

GENTLEMEN:

The undersigned, Chief of the Board of Assessors of your Honorable Court, respectfully report that the reassessment of real estate referred to in my last annual report, then in progress, resulted in the assessment of over 5,500 pieces of property, which, after being reviewed by your Honorable Court, resulted in the addition to the taxable basis of the city of the sum of $2,333,683, as will appear by reference to the new assessment book No. 2 for 1894.

The number of appeals for abatement during the year, and referred to this Board by your Honorable

Court for examination and report, was 952, representing 1,412 improvements.

Of these appeals 477 had abatements recommended, and upon 475 no abatements were recommended. After revision by your Honorable Court the amount of abatements allowed amounted to the sum of $276,054, as set forth in the accompanying statistics.

During the past year the Assessors have delivered 139 summonses or notices to executors, administrators and trustees to appear before your Court to adjust assessments on estates of persons recently deceased.

We have, under the direction of the Court, been engaged in obtaining the necessary information in order to make a reassessment of quite a large area of real estate, which, when completed, will no doubt add largely to the taxable basis for 1895.

The undersigned has been present in your Honorable Court when appeals were heard and new assessments made, as required by the Ordinance No. 63, approved March 30, 1893.

Respectfully submitted,

WILLIAM J. KING,

Chief Assessor.

FRANCIS X. JENKINS, *Clerk.*

BALTIMORE, January 7, 1895.

To the Honorable the Judges
of the Appeal Tax Court:

GENTLEMEN:

I have the honor to submit for your consideration the Assessors' report on appeals filed for abatements on real estate for the year ending December 31st, 1894.

Wards.	No. of Appeals.	No. Granted.	No. Dismissed.	Amount Abated.
1	31	13	18	$12,300
2	33	24	9	6,900
3	37	22	15	8,600
4	31	13	18	4,350
5	45	28	17	14,900
6	39	22	17	7,050
7	56	23	33	8,250
8	24	6	18	2,400
9	66	32	34	45,430
10	31	13	18	14,100
11	23	10	13	7,900
12	95	43	52	25,650
13	28	22	6	13,150
14	37	25	12	18,650
15	50	33	17	15,625
16	35	20	15	10,075
17	21	12	9	17,050
18	86	25	61	7,650
19	137	71	66	29,624
20	47	20	27	6,400
	952	477	475	$276,054

From the report of the Assessors there were 184 appeals to your honorable body for further relief.

Abatements recommended by the Assessors on these appeals amounted to $40,950.

Additional abatements allowed by the Court upon the same amounted to $35,250, which is included in the above statistics.

Respectfully submitted,

WILLIAM J. KING,

Chief Assessor.

FRANCIS X. JENKINS, *Clerk.*

The Court fully recognize the falling off in the assessments of personal property caused by the general stagnation in business, the result of the financial crisis of a year ago, which has affected the entire country.

The Court are, and have been for the past year, making an effort to bring about an equalization of taxation, as far as is in their power.

This it is impossible to entirely accomplish without a general assessment law, as, for various reasons, there is a shrinkage in values in certain parts of the city, while the values in other sections are enhanced.

The Court again most anxiously trust that the next General Assembly of Maryland will take this very important question into consideration and pass such a remedial measure as is anxiously looked for by all classes of citizens of Baltimore, in order that the burdens of taxation may be justly and equitably distributed.

Respectfully submitted,

WM. H. B. FUSSELBAUGH,
E. J. CHAISTY, JR.,
E. T. JOYCE,
Judges of Appeal Tax Court.

THOMAS K. MCCORMICK, *Chief Clerk*,
MICHAEL H. DOYLE, *Assistant Clerk.*

ANNUAL REPORT

—— OF THE ——

Electrical Subway Commission

—— TO THE ——

MAYOR AND CITY COUNCIL OF BALTIMORE,

—— FOR THE ——

FISCAL YEAR ENDING DECEMBER 31, 1894.

REPORT.

To the Honorable Chairman and Members of the Construction Committee of the Underground System of The Police and Fire-Alarm Telegraph and Police Patrol:

GENTLEMEN :

I herewith respectfully beg to submit my report for the year 1894.

Having received my appointment on May 3, 1894, I commenced, as soon as possible, to study the problems which presented themselves in the execution of an efficient system of subways to suit the needs of the city's service, and further to investigate the methods of construction used in other cities where work of a similar nature had been done.

In order to carry out the work, it was necessary that I should have proper office room, and to this end, with the sanction of the Commissioners, Room 508, Equitable Building, was secured.

Having spent about a month in the preliminary investigation mentioned, the work of laying out the system of conduits, as now being built, was com-

menced. After locating the conduits and determining their capacity, the specifications were prepared, and bids were advertised for on August 9, 1894.

The proposals were submitted September 1, 1894, the following named parties competing:

David E. Evans & Co.....Baltimore, Md.
McCay-Howard Engineering Co.... " "
White-Crosby Co..... " "
Complete Electric Construction Co..New York.
Connecticut Pipe Manufacturing Co.New Haven, Conn.
Liphardt and Winterhalter.....Detroit, Mich.
Pepper and Register.....Philadelphia, Pa.

To secure competition the advertisements called for bids upon four general styles of conduits, which may be classified, according to the material used in their construction, as treated wrought-iron pipe, laid in concrete; cement-lined tubes, laid in concrete; creosoted wood; terra-cotta tubes, laid in concrete.

Nearly every style of conduit is covered by patents. Conduits built with wrought-iron pipe are not serviceable without the use of the "vanishing thread," the patents for which are owned in New York.

Cement-lined tubes are covered by patents; there are several different types of creosoted wood ducts, all patented, and terra-cotta conduits may be divided into two classes, The H. B. Camp Tile and the Lynch-Lake Conduit, both patented.

From the above, therefore, and in view of the fact that all four styles mentioned have been used with more or less success in different cities, and no definite idea of the comparative cost of laying the different types mentioned could be obtained, it was decided to include all four types in the competition before deciding definitely on the type to be used at this point.

The estimated comparative cost of the work as scheduled to be completed with the present appropriation, based on the figures contained in the proposals for the four types mentioned, is as follows:

TABLE No. 1.

Comparative Cost of Conduits of the Four Types Advertised for August 9, 1894.

For Linear Feet of Conduit, See Table No. 2, Page 7. Size of Ducts 3″.

Names of Bidders.	Treated Wrought Iron Pipe.		Creosoted Wood.						Cement Lin'd Tubes		Terra Cotta.			
			Pump Log		Sectional.		McDonald.				H. B. Camp.		Lynch.	
	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.	Dolls.	Cts.
White-Crosby Co	92,510	83	64,712	43	65,130	83	.....	.....	83,187	26	63,487	84	59,792	61
The Complete Elec. Con. Co	100,240	88	77,797	77	.....	.....	77,797	77	83,890	82	81,154	28	.....	.....
David E. Evans & Co	91,190	34	.....	.....	.....	.....	.....	.....	.....	...	.....	.....	54,718	7
The Conn. Pipe Manf'g Co	.....	.....	.....	.....	.....	.....	.....	.....	107,908	42	.....	.....	.....	.....
McCay-Howard Engineer'g Co	81,306	49	.....	.....	.....	.....	57,357	14	68,300	4	.....	.....	58,678	23

These figures do not include salaries and office expenses.

It is seen that the lowest bid received was for terra-cotta conduit of the Lynch pattern, the next lowest being for creosoted wood conduit of the McDonald type; the cost of the treated wrought-iron pipe and cement-lined tubes being far in excess of either the wood or terra-cotta conduits. In view of the durability of terra cotta, conjoined with its cheapness and the advantages of the H. B. Camp conduit for the city service, it was decided to give the contract to the lowest bidder for this style of conduit. The contract was consequently awarded to the White-Crosby Company of Baltimore.

Work was commenced on October 3, 1894, the contractors agreeing to complete the work in one hundred and twenty working days, commencing October 13.

The total number of feet of the various sizes of conduit to be laid under the different styles of paving is seen below.

TABLE No. 2.

Total No. of Feet of the Various Size Ducts under:

	Cobble Stone Ft. In.	Belg'n Bl'k Ft. In.	Bl'k Asp. Ft. In.	Sheet Asp. Ft. In.	Total Ft. In.
1 Duct..	13,591.07	6,969.07	575.11	342.07	21,479.08
2 " ..	37,449.01	9,621.02		2,170.08	49,240.11
4 " ..	3,433.04	2,434.10			5,868.02
6 " ..	12,632.02	6,055.02	386.09	375.00	19,449.01
	67,106.02	25,080.09	962.08	2,888.03	96,037.10

The above shows that under the present contract there will be laid 96,037 feet of all sizes. This embraces the area bounded by Caroline street on the east, Madison street on the north, Fremont avenue on the west and Hamburg street and the water front on the south. Of the total amount to be laid about 42,000 feet have been laid up to the present time. This completes the western section, bounded by Madison street on the north, North, Fayette, St. Paul and Charles streets on the east, Pratt street on the south and Fremont avenue on the west; and the greater part of the southern section, bounded by Pratt street on the north, Charles street on the east, Hamburg street on the south and Fremont street on the west.

In view of the cold and inclement weather, usually encountered in this vicinity during the months of January and February, with the consequent necessity of leaving streets open for a considerable period of time (thereby causing much inconvenience to the public), and the difficulty with which good work is secured in freezing weather, work will be suspended during these months.

The work of drawing in cables on the sections already complete will be commenced as soon as the spring opens. The cost of the cable and electrical connections for the entire district to be complete under

the present contract is estimated at $23,000. This figure does not include salaries and office expenses.

There being many concerns in the country making a specialty of conduit construction and others a specialty of cable manufacture and electrical equipment, the contracts for the two parts of the work were separated, and proposals for the electrical equipment will be advertised for in the next few days. I believe the separation of the work will result in a saving to the city.

Below is given a statement of expenditures to January 1, 1895.

TABLE No. 3.

Statement of Expenditures for the Year 1894.

Books, stationery and printing	$241 52
Office furniture and fixtures	218 49
Drawing materials	117 11
Office rent	386 68
Salaries	3,486 35
Advertising	115 88
Manholes	2,158 22
Distribution boxes	2,987 78
Subsidiary ducts	1,443 90
Posts	425 25
Tile	15,897 47
Additional work not called for in contract	740 24
	$28,218 89

ORGANIZATION.

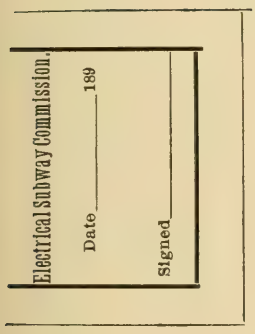
The work on the part of the contractors is done under the supervision and inspection of a corps of engineers and inspectors employed by this office.

The engineers locate the line of the trenches, establish the grades of the trenches and make daily reports of the location of the conduits and all obstructions met in the execution of the work. The conduits have, wherever possible, been placed with sufficient clearance between the conduits and gas or water mains to allow room for subsequent repairs upon the mains, without affecting the conduits. At street intersections where lines of pipe are crossed, the conduits have been placed below the pipes, so that future work at such points will not disturb the conduits.

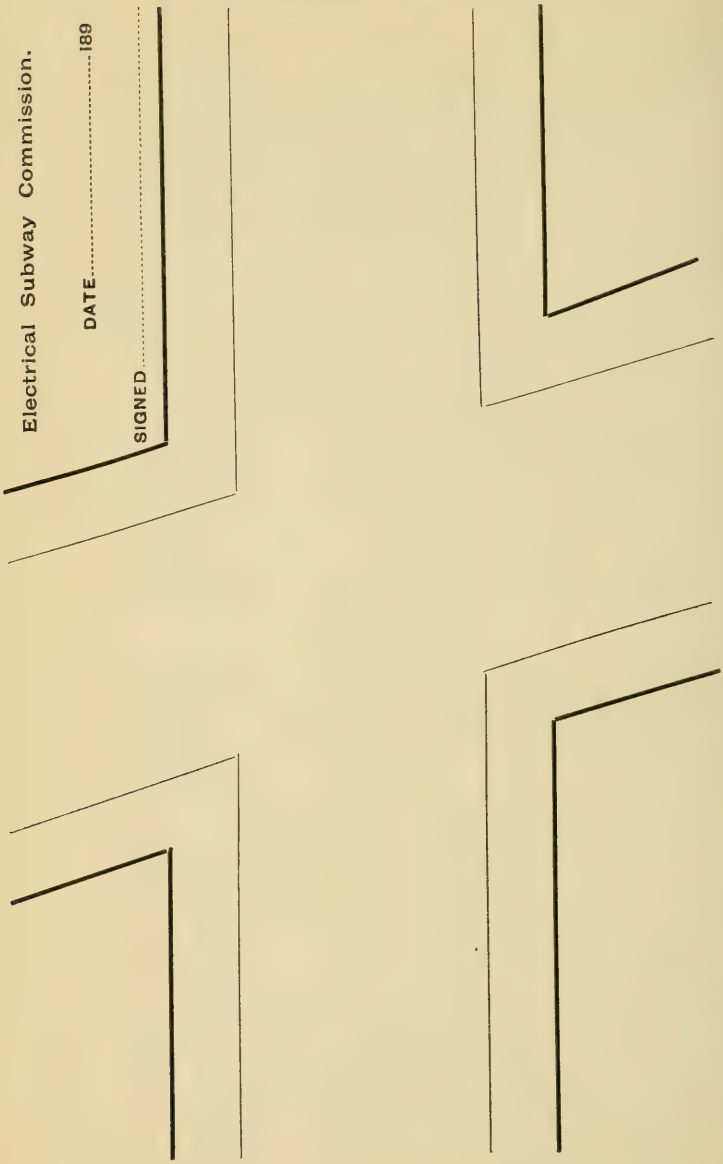
Following will be found the forms used for the engineer's reports. From these reports plats are drawn on a scale of twenty feet to the inch, which are filed in this office. Copies of these plats accompany this report.*

* Sheets Nos. 1, 2 and 4.

ENGINEER'S REPORT.



ENGINEER'S REPORT.



All materials are inspected as they are shipped to the work, and one man is detailed to this inspection. All cement is tested before shipment to the work, and occasional samples are taken from the work to ascertain the condition of the cement as being used. The brick work is in charge of an inspector who superintends the construction of the manholes and distribution boxes.

The refilling of trenches, street paving and cleaning up is in charge of an inspector. In refilling, three rammers are employed to every shoveler, to prevent the pavement sinking, as far as possible. The inspector in charge of the manholes submits daily reports upon the number of manholes and distribution boxes completed and accepted.

The Inspector of Street Paving reports daily the number of feet of conduit paved over and accepted.

Following is a copy of the form used for these reports:

Inspector's Daily Report.

LENGTH OF CONDUIT LAID.					Length of Subsidiary	MANHOLES.			DIST. BOXES.			POSTS.		MATERIAL REJECTED.
No. of Ducts.	1	2	4	6		No.	Depth	Style.	No.	Depth	Style.	No.	Style.	
Under Cobbles....														
Under Belg'n Blks														
Under Block Asp.														
Under Sheet Asp.														

NAMES OF STREETS	FROM	TO	TIME WORKED. FROM	TIME WORKED. TO	

REMARKS: _____

Signed by _____

Dated _____ 189 *Approved by* _____

The average number of linear feet of paving completed per day since the beginning of the work is 720 feet; the average for the ten days between December 15 and 25, 1,120 feet. The maximum for one day, 1,540 feet.

These figures indicate that the work has been promptly and quickly done, thereby causing the smallest amount of inconvenience to the public. Up to date, the total claims for damages have amounted to less than $50, part of this amount being due to injuries received by workmen engaged on the work.

GENERAL PLAN OF THE WORK.

The requirements of a subway system to supply the needs of the City Fire-Alarm and Police Patrol System are peculiar in so much as it is necessary to connect with fire-alarm or police patrol boxes located on nearly every street intersection in the city. To do this requires the construction of numerous lateral and branch lines running from the trunk lines at various points.

To supply the present boxes, to provide for those which may be located hereafter, to provide for the extension of the subways as the suburban districts are built up, and at the same time to preserve a uniform and symmetrical system of subways capable of extension to meet the increase in the number of fire-

alarm and police patrol boxes and the growth of the city, without great expense and the rearrangement of a majority of the city fire-alarm and police patrol circuits, was no small task.

The plan of the proposed conduit system within the present built-up portion of the city is shown on the accompanying drawing,* and below will be found a schedule of the trunk lines.

System of Trunk Lines of the Police and Fire-Alarm Telegraph.

EASTERN SYSTEM.

TRUNK LINE	FROM	TO
E. Fayette St.	Fayette and Holliday Sts	Fayette St. and Eastern Limits
Eastern and Canton Aves	E. Fayette St. Trunk Line at M. H. Fayette and High Sts.	Eastern Ave. and High St.
	Eastern Ave. and High St	Eastern Ave. and Caroline St.
	Eastern Ave. and Caroline St	Canton Ave. and Caroline St.
	Canton Ave. and Caroline St.	Eastern Limits

*Drawing No. 3.

TRUNK LINE	FROM	TO
Boston St....	Eastern and Canton Aves. Trunk Line at M. H. Canton Ave. and Castle St.	Canton Ave. and Boston St.
	Canton Ave. and Boston St.....	First Ave. and Boston St.
Lombard St..	Eastern and Canton Aves. Trunk Line at M. H. Lombard and High Sts.....	Lombard St. and Patterson Park Ave.
Gay St.....	E. Fayette St. Trunk Line at M. H. Fayette and Gay Sts..	Gay St. and North Ave.
Madison St...	Gay St. Trunk Line at M. H. Gay and Madison Sts.....	Madison St. and Eastern Limits.
Harford Ave.	Gay St. Trunk Line at M. H. Gay and Exeter Sts.....	Gay and Ensor Sts.
	Gay and Ensor Sts.	Harford Ave. and Ensor St.
	Harford Ave. and Ensor St.....	Harford and North Aves.

GREENMOUNT-AVENUE TRUNK LINE.

	FROM	TO
	Lexington and North Sts.	Bath and North Sts.
	Bath and North Sts.	Bath and Front Sts.
	Bath and Front Sts.	Constitution and Front Sts.
	Constitution and Front Sts.	Constitution and Monument Sts.
	Constitution and Monument Sts.	Greenmount Ave. and Monument St.
	Greenmount Ave. and Monument St.	Greenmount and North Aves.

NORTHERN SYSTEM.

St. Paul St.	Lexington and North Sts.	Lexington and St. Paul Sts.
	Lexington and St. Paul Sts.	North Ave. and St. Paul St.
Cathedral St. and Mount Royal Ave.	St. Paul St. Trunk Line at M. H. St. Paul and Saratoga Sts	Cathedral and Saratoga Sts.
	Cathedral and Saratoga Sts.	Cathedral St. and Mt. Royal Ave.
	Cathedral St. and Mt. Royal Ave.	North and Mt. Royal Ave.

WESTERN SYSTEM.

TRUNK LINE	FROM	TO
W. Fayette and Lexington Sts.....	St. Paul St. Trunk Line at M. H. St. Paul and Lexington Sts.....	St. Paul and Fayette Sts.
	St. Paul and Fayette Sts.....	Fremont Ave. and Fayette St.
	Fremont Ave. and Fayette St.....	Fremont Ave. and Lexington St.
	Fremont Ave. and Lexington St.....	Monroe and Lexington Sts.
Paca St. and Druid Hill Ave.....	W. Fayette and Lexington Sts. Trunk Line at M. H. Fayette and Paca Sts.	Druid Hill Ave. and Paca St.
	Druid Hill Avenue and Paca St.....	Druid Hill and North Aves.
Fremont Ave. and Calhoun St....	W. Fayette and Lexington Sts. Trunk Line at M. H. Fremont Ave. and Lexington St.....	Fremont and Patterson Aves.
	Fremont and Patterson Aves.....	Calhoun St. and Patterson Ave.
	Calhoun St. and Patterson Ave.....	Calhoun St. and North Ave.

TRUNK LINE	FROM	TO
Mount and Payson Sts.	W. Fayette and Lexington Sts. Trunk Line at M. H. Mount and Lexing Sts.....	Mount St. and Riggs Ave.
	Mount and Riggs Ave.	Payson St. and Riggs Ave.
	Payson St. and Riggs Ave	Payson St. and North Ave.
W. Pratt St..	W. Fayette and Lexington Sts. Trunk Line at M. H. Fayette and Park Sts	Liberty and Lombard Sts.
	Liberty and Lombard Sts.....	Eutaw and Lombard Sts.
	Eutaw and Lombard Sts.....	Eutaw and Pratt Sts.
	Eutaw and Pratt Sts.	Frederick Road and Pratt St.
	SOUTHERN SYSTEM.	
S. Charles and Hanover Sts.	Fayette and North Sts	Fayette and Calvert Sts.
	Fayette and Calvert Sts.....	Bank Lane and Calvert St.
	Bank Lane and Calvert St.....	Bank Lane and St. Paul St.

TRUNK LINE	FROM	TO
	Bank Lane and St. Paul St.....	Baltimore and St. Paul Sts.
	Baltimore and St. Paul Sts.....	German and Light Sts.
	German and Light Sts	German and Charles Sts.
	German and Charles Sts.....	Hamburg and Charles Sts.
	Hamburg and Charles Sts	Hamburg and Hanover Sts.
	Hamburg and Hanover Sts.....	Cromwell and Hanover Sts.
South and Pratt Sts...	South Charles and Hanover Sts. Trunk Line at M. H. German and Light Sts.....	German and South Sts.
	German and South Sts	Pratt and South Sts.
	Pratt and South Sts.	Pratt and High Sts.
Second St. and Centre Market.....	South and Pratt Sts. Trunk Line at M. H. Second and South Sts.....	Second St. and Centre Market.
	Second St., and Centre Market.....	Pratt St. and Centre Market.

TRUNK LINE	FROM	TO
Camden, S. Eutaw and Barre Sts..	S. Charles and Hanover Sts. Trunk Line at M. H. Charles and Lombard Sts.....	Hanover and Lombard Sts.
	Hanover and Lombard Sts.....	Hanover and Dover Sts.
	Hanover and Dover Sts.....	Sharp and Dover Sts.
	Sharp and Dover Sts.	Sharp and Camden Sts.
	Sharp and Camden Sts	Eutaw and Camden Sts.
	Eutaw and Camden Sts.....	Eutaw and Barre Sts.
	Eutaw and Barre Sts.	St. Peter's and Barre Sts.
	St. Peter's and Barre Sts.....	St. Peter's and Cross Sts.
S. Howard and Paca Sts...	Camden, S. Eutaw and Barre Sts. Trunk Line at M. H. Sharp and Camden Sts.....	Sharp and Barre Sts.

TRUNK LINE	FROM	TO
	Sharp and Barre Sts.	Howard and Barre Sts.
	Howard and Barre Sts.....	Howard and West Sts.
	Howard and West Sts.....	Ridgely and West Sts.
	Ridgely and West Sts.....	Ridgely and Ostend Sts.
Hughes, Covington and Clement Sts.	S. Charles and Hanover Sts. Trunk Line at M. H. Charles and Hill Sts.....	Light and Hill Sts.
	Light and Hill Sts..	Lightand Hughes Sts.
	Light and Hughes Sts	Covington and Hughes Sts.
	Covington and Hughes Sts.....	Covington and Cross Sts.
	Covington and Cross Sts	Belt and Cross Sts.
	Belt and Cross Sts..	Belt and West Sts.
	Belt and West Sts...	Jackson and West Sts.

TRUNK LINE	FROM	TO
	Jackson and West Sts	Jackson and Clement Sts.
	Jackson and Clement Sts.....	Allen and Clement Sts.
	Allen and Clement Sts	Allen and Benson Sts.
	Allen and Benson Sts.....	Davis Alley and Benson St.
Riverside and Fort Aves.	South Charles and Hanover Sts.Trunk Line at M. H. Charles and Hamburg Sts.....	Light and Hamburg Sts.
	Light and Hamburg Sts	Light and Cross Sts.
	Light and Cross Sts.	William and Cross Sts.
	William and Cross Sts.....	William St. and Riverside Ave.
	William St. and Riverside Ave.....	Randall St. and Riverside Ave.
	Randall St. and Riverside Ave.....	Randall and Webster Sts.
	Randall and Webster Sts.....	Fort Ave. and Webster St.

TRUNK LINE	FROM	TO
	Fort Ave. and Webster St.....	Fort Ave. and Martin St.
Jackson St.	Riverside and Fort Aves. Trunk Line at D. B. Randall and Jackson Sts..	Jephson and Jackson Sts.

The drawing and schedule are sufficiently clear to explain the system of trunk lines without further description.

As will be seen, the trunk lines radiate from the City Hall as a centre. The fire-alarm boxes and engine-houses located in the area between two trunk lines, as, for example, the area between the Eastern avenue and Canton avenue trunk line and the Lombard-street trunk line, are supplied by circuits carried in these trunk lines. These two trunk lines are connected by cross-over connections or laterals placed on every alternate street, as shown on Central avenue, Caroline street, Broadway, etc. From these laterals, branches are laid to connect with boxes, engine-houses, etc. On Bank street, for instance, is located a branch from the Central-avenue lateral to connect with fire-alarm box No. 142, at Bank and Exeter streets. Should it be desired at a later date to place a box at Eden and Gough streets, a branch to

connect with the Central-avenue lateral would be laid to that point and the connection made. At the present time the portion of the Caroline-street lateral between Eastern avenue and Gough street will not be laid, as there is no service required in this section. Should there be, however, in the future, the lateral can be completed. At present, only so much of the laterals and such branches are being laid as are required to serve the present boxes and circuits, but it is evident from the above that all extensions will simply serve to complete a system already begun, the function of which is ultimately to supply circuits to every street intersection in the city.

It is evident also that as the city extends the trunk lines can be extended and cross-over connections built as indicated without changing the system.

In this connection it may be noted with interest that in readjusting the city circuits to suit the underground system, the area between every two trunk line conduits is supplied by two fire-alarm box circuits. In the case of the city lines all circuits are metallic, the current flowing in a direction opposite to the direction of motion of the hands of a clock. The lead wire (taking the same area before mentioned, see Drawing No. 3), of the fire-alarm box circuits, is carried in the Eastern and Canton-avenue trunk line and the return in the Lombard-street trunk line. The

two circuits supplying this area are box circuits Nos. 19 and 20. If circuit No. 19 supplies the boxes served from the Central-avenue lateral, No. 20 supplies those served from the Caroline-street lateral, each circuit supplying every alternate lateral. By this method the risk of failure to record alarms is minimized, for the lead and return being in different trunk lines, in the event of an accident to the cables in the trunk-line conduits the wires could be grounded on each side of the fault until repairs are made. In the event of an accident to the cables in the laterals, only one of the two circuits would be affected and the boxes served by the adjacent laterals would record at the home office. In any event the maximum area disabled would be that bounded by the two trunk lines.

The advisability of the city building conduits of a capacity to accommodate all the existing overhead lines was referred to you for consideration. In view, however, of the inadequacy of the present appropriation and the limited powers invested with your committee under the present ordinance, coupled with a consideration of the present financial depression and the numerous other public improvements, either in course of construction or contemplation, it was not deemed advisable by you to petition the City Council to extend your powers and authorize a new loan to prosecute such work, and I have, therefore, confined

the present work within the limits of the appropriation.

The work is planned, however, to form a part of a system of subways capable of accommodating all the present overhead lines should the city subsequently desire to build conduits to accommodate all overhead lines, or if not, should the city require all companies which may hereafter be allowed to construct conduits, to build them on the lines and of the capacity prescribed by the city, and furthur, to use the city conduits where available. A fixed rental per foot per duct would then be determined, and companies using either the city conduits or those belonging to other companies would be required to pay accordingly.

A few words of explanation would be apt.

In most sections of the city one duct conduit would have carried all the present city wires, but it was not deemed advisable to construct such small lines as the increased cost of laying additional ducts is small, as the following figures will show:

One duct under cobble-stone paving costs 31½c. per foot.

Two ducts under cobble-stone paving cost 43c. per foot.

Six ducts under cobble-stone paving cost 81c. per foot.

The cost per foot of duct decreases as the number of ducts is increased.

It is evident, therefore, that conduits of large capacity are more economical to build than those of small capacity. The reasons for this are obvious.

As being laid, the trunk line conduits contain four or six ducts, the laterals two ducts and branches one duct. Table No. 2, page 7, shows the number of feet of each size of conduit.

Upon consideration it will be remembered that nearly all the distributing points for circuits of all classes, electric light, telegraph and telephone, are situated near the centre of the city. The Brush and United States Electric Light Companies are located respectively at Monument and Buren, and Holliday and North streets, the Western Union Telegraph Company at Baltimore and Calvert streets, the Chesapeake and Potomac Telephone Company at St. Paul street and Bank lane, etc., the City Hall being the distributing point for the great majority of the city lines. Since the Chesapeake and Potomac Telephone Company has already constructed an extensive system of conduits covering the heart of the city, in

which, under the provisions of the ordinance granting them the right to construct conduits, they have provided space for the city wires; the trunk lines belonging to the city conduit system connect with the C. & P. conduits at points remote from the points of distribution before mentioned.

The work on the city's conduits, therefore, in the centre of the city is confined principally to the construction of laterals and branches from the C. & P. conduits to connect with fire-alarm and patrol boxes, etc.

By reference to the map (Drawing No. 3) it will be seen that the trunk lines belonging to the city connect with the C. & P. conduits at Fayette and Chestnut, Lombard and High, Gay and Monument, etc., on the east side; at Saratoga and St. Paul streets, Druid Hill avenue and Dolphin street, Fayette street and Fremont avenue, etc., on the west side.

These trunk lines are all six-duct lines, and if the city should desire at a later date to build a general subway system, trunk lines could be built from the centre of the city to connect with these lines.

The explanation is made more plain by reference to the schedule on page 16.

It is seen from the schedule and by reference to the map that a trunk line starting from the centre of the city supplies several trunk lines branching from the main trunk line.

Taking the City Hall as a centre, the East Fayette-street Trunk Line supplies the Gay-street Trunk Line and Eastern and Canton-avenue Trunk Lines, together with the extension of the East Fayette-street Trunk Line west of High street. The Gay-street Trunk Line in turn serves the Harford-avenue Trunk Line and Madison-street Trunk Line, the Eastern and Canton-avenue Trunk Line serving the East Lombard-street and Boston-street Trunk Line. The East Fayette-street Trunk Line would contain, therefore, as far as Gay street, forty-eight ducts, twenty-four of which would be carried by the Gay-street Trunk Line as far as Ensor street, where the Harford-avenue Trunk Line branches, and from there eighteen to Gay and Madison, where the Madison-street Trunk Line branches, twelve ducts being carried out Gay street. The East Fayette-street Trunk Line would carry twenty-four ducts as far as High street, eighteen to serve the Eastern and Canton-avenue Trunk Lines and six for the East Fayette-street Trunk Line extended, etc. This example is sufficient to enable the reader to see what work would be necsssary to make connections for the other sections of the city, as shown on the schedule.

It is evident, therefore, that should the city desire to control all subways built in the future, or require companies building subways to complete a part of the system as above described, it would only be necessary to build lines parallel to the present C. & P. conduits and connect them with the city lines at points where they now connect with the C. & P. conduits. The number of ducts carried by each trunk line as used in the illustration should not be taken as the number which would actually be laid should such a system be executed, as the data relating to the circuits owned by the respective companies operating overhead lines at present would determine the capacity of the conduits. Six and four ducts, as being laid in the city trunk lines, was taken as a minimum, and provision has been made, should future demands require, to increase the capacity of these lines.

In connection with this system a central distributing vault could be located at a convenient point near the centre of the city, all the circuits from the various companies being carried to this vault and distributed to the various sections of the city as required, all the main trunk lines centering at this point.

Should the city require companies which may subsequently build subways to build them on the lines and of a capacity to conform with a general system, and fix the rental per foot per duct at such a figure as

to insure good return for the money invested, at the same time requiring all companies operating overhead lines to place them underground as soon as a section of the general system was completed, it is probable this plan would serve as an incentive to the various companies to build subways and thereby save the cost of rental. Should several companies build subways, each completing a portion of the general system, the rentals being uniform, the respective companies would pay to the other companies only for the excess duct miles rented from them, being credited in every case with the duct miles furnished by them to the other companies.

The cost per foot of duct to the several companies under this plan would be less than if each owned an individual subway, for, as explained, the cost per foot of duct decreases as the number of ducts increase.

The present condition of the sub-surface work in the streets of Baltimore makes it the more urgent that some general system of subways be built, and that corporations be not allowed to build individual systems. Accompanying this report will be found copies of plats (see sheets 1 and 2) which have been compiled in this office as a record showing the location of the city conduits as laid, and the obstructions, such as gas and water mains, etc., met in locating the work. These plats do not show all the ob-

structions, as the conduits were preliminarily located on the side of the street where there were fewest pipes, as previously learned from the Gas Company and Water Department, and test holes were then sunk to determine the exact location of the pipes on that side of the street, and the conduits placed accordingly.

It is evident upon examining the plats that nearly all the available space under the surface of the streets is now occupied. This is particularly true of the immediate centre of the city. Should, therefore, the city allow every company operating overhead lines to build its own conduits, we would be brought face to face with a problem which now confronts London and some of the older towns of Europe, viz: How shall we provide room under the streets for additions to the gas, water, electrical and sewer service? London seems to have awakened to a realization of the seriousness of the situation and proposes to build, at enormous expense, a subway system which will be of a capacity to accommodate underground service of all kinds, with the consequent rearrangement of the present gas, water, electrical-subway and sewer systems. It is well to note here that as yet Baltimore has no sewerage system.

The expense accruing to the city resultant from the frequent disturbance of improved paving, which can never be replaced equal to new, is also an argument for a general electrical subway system.

The inconvenience to traffic and the public caused by frequently tearing up streets should be considered.

Placing electric-light and telephone and telegraph cables in the same conduits is often offered as an argument against a general electrical subway system, the claim being made that the telegraph and telephone service is subjected thereby to accident and the effects of induction. To contradict this, I submit below communications received by the Electrical Commission of Washington, D. C., composed of Andrew Rosewater, Prof. Henry A. Rowland, of the Johns Hopkins University, and Francis R. Shunk, First Lieutenant of Engineers, U. S. A., in answer to inquiries upon this point.

HEADQUARTERS FIRE DEPARTMENT, CITY TELEGRAPH.

CHICAGO, March 13, 1891.

GENTLEMEN:—

I have been unavoidably delayed in answering your favor of the 9th ultimo, as this is my busy season of the year for municipal matters.

With reference to your queries, I will answer them seriatim:

(1). What has been your experience with underground systems?

My experience with underground systems dates from 1878.

(2). What is the degree of proximity in your conduits between telephone, telegraph and electric-light wires?

In the conduits belonging to the city we have telephone, telegraph and electric-light wires running parallel in separate ducts. The conductors of the different systems are from an inch to a foot apart.

(3). What, if any, trouble does such proximity develop?

The only trouble developed by such proximity is from induction, and that only (materially) affects the telephone lines.

(4). Can it be successfully remedied; and if so, how?

It can be successfully remedied by running the outgoing and incoming wires, or positive and negative sides of the electric-light circuits in the same ducts and using "metallic-circuit" telephone lines, the two sides of the wires twisted in pairs, in cables, such as are now used for underground work by the Chicago Telephone Company and others.

* * * * * * * * * * * * *

(18). In the light of your experience, what are your views as to the ownership and control of electric-light, telegraph and telephone conduits?

The ownership should be in the municipality.

Yours respectfully,

J. P. BARRETT,

Superintendent.

ELECTRICAL BUREAU,
PHILADELPHIA, February 5, 1891.

DEAR SIR:—

* * * * * * * * * * * * *

Replying to the request for information "whether the same or separate conduits are used for high potential and telephone circuits:" There are no general system of conduits in this city. Each corporation or company desiring underground facilities makes application to the city councils for the privileges, and if granted, lay conduits and cables for their own use. This of necessity separates the cables carrying high-tention currents from the telephone circuits. In the conduits laid by the city there are cables carrying currents of high potential side by side with those used for telephone service. No trouble is experienced while the telephone circuit is used in metallic, but if ground, the intensity of the induced current greatly interferes with its use. This cable, three miles in length, has been in use since 1886. Taking this as an example, I see no reason, if the telephone wires are used in metallic, and if the cables be properly protected, why they should not be placed in the same conduit. It is my opinion that the public authorities, where convenient, should build subways of brick or masonry the full length of certain avenues or streets, every four or six

blocks apart, from which, at such street crossings as may be nesessary, lateral branches of conduits could be laid to such points as may be desired to reach. If built sufficiently large the subways should contain the mains for gas and water, making them accessible at all times without disturbing the street surface. This would seem the only feasible method to prevent the constant tearing up of the streets for the introduction of or repair to substructures.

Very respectfully,

D. R. WALKER,

Chief of Bureau.

I also submit the recommendations made by the Washington Electrical Commission, as worthy of consideration on account of the reputation of the members of the Commission.

RECOMMENDATIONS FROM THE REPORT OF THE ELECTRICAL COMMISSION APPOINTED TO CONSIDER THE LOCATION, ARRANGEMENT AND OPERATION OF ELECTRIC WIRES IN THE DISTRICT OF COLUMBIA.

(1). We recommend the creation of a permanent electrical bureau to supervise all electrical work in the district, and to enforce all regulations relating thereto. Its duties should be:

To have charge of the fire-alarm and police-signal service.

To direct and supervise the construction of electrical conduits, the erection of poles and placing of wires and all other appliances for electrical service by the district government, and to inspect the electrical appliances belonging to private individuals or corporations under permits or franchises.

To make periodical inspections and reports of all electrical appliances in the district.

The bureau should consist of a skilled electrician as chief, with a corps of competent assistants. Sufficient salaries should be paid to secure first-class ability. We would recommend a salary of $4,000 per annum for the chief of the bureau, $2,000 per annum for his principal assistant. Since efficiency will require special local and expert knowledge, both of which

increase with length of service, the personnel of the bureau should be as permanent as possible; changes should be made for imperative reasons only.

(2). We recommend that within the limits indicated on the plans submitted all wires should be put underground as soon as possible, and that the District Commissioners be empowered to summarily remove poles and wires maintained overhead after due reasonable notice for their removal has been given.

(3). We recommend the rectangular clay conduit manufactured under the Lynch-Lake patents, believing that it is best suited to the requirements of the district.

(4). The telephone and electric-light systems being practically under ground already, we submit a plan for a conduit system sufficient to accommodate the telegraph, fire-alarm and police-signal lines of the city and a reasonable extension of the telephone and electric-light systems. The approximate cost of the system proposed will be $490,000.

(5). We believe that all conduits should be owned by the city, and therefor recommend that hereafter all conduits and subways shall be constructed and maintained by the district government, under the direct supervision of the electrical bureau, and that the district government shall, as soon as practicable, acquire the ownership of those already constructed.

(6). A reasonable rental should be charged for the use of conduits by franchised corporations or individuals. For the conduits above recommended we think that an annual charge of 7 cents per foot per duct would be fair.

(7). Should our recommendation as to the public ownership of conduits not be adopted, and should conduits continue to be constructed by franchised corporations, we would recommend that the franchises of such corporations contain an express provision that one or more ducts on each line be reserved for free public use, in addition to such other compensation as may be thought sufficient for the use of the public ground. We further recommend that this provision be extended to the lines conditionally constructed during the past year, and if possible to all existing lines.

(8). In those parts of the district where for reasons of local expediency overhead wires may be deemed admissible by the electrical bureau, we

recommend that the poles be erected and owned by the district, and that rent, to be determined by the electrical bureau, shall be charged for their use.

Trusting that we have fully answered all the questions submitted to us, and that the plans and other data accompanying our report will as fully meet all the requirements as it is possible under the present conditions, we are, very respectfully,

ANDREW ROSEWATER,
HENRY A. ROWLAND,
FRANCIS R. SHUNK,
First Lieutenant of Engineers.

Owing to the limited appropriation the work scheduled to be done at present is but a small part of the work which should be done to make the underground service for the city efficient.

The experience in other cities has been that while the first cost of conduit construction is great, the cost of maintenance is small and, therefore, conduits are ultimately cheaper than overhead lines.

David R. Walker, Chief of the Electrical Bureau in Philadelphia, shows in his report for 1894 that the conduits owned by the city of Philadelphia yielded during that year a revenue of three per cent. on the money invested. This revenue was received from leasing ducts in the city conduits to corporations without compelling ordinances requiring companies to use the city conduits.

The liability of the total derangement of the city

service, while overhead, from contact with electric light and other high potential wires, as evidenced by the the recent burnout of the Central Station, at the City Hall, the repairs for which cost $5,000, makes it apparent that the city wires should be underground in all parts of the city where such accidents are liable to occur.

In view of what has been said, and since $225,000 of the $6,000,000 loan was set apart for conduit construction, and only $100,000 of that amount has been appropriated, I would recommend:

1. The city requires that all subsequent conduits laid should form a part of a general system of electrical subways, which may be accomplished.

(*a*) By the city building and owning such a general electrical subway system, requiring that all companies owning overhead lines place their wires therein, at a rental which may be determined later.

(*b*) By giving a franchise to one corporation to build conduits which shall conform to the lines, and be of the capacity prescribed by the city, requiring that such corporation shall buy all conduits previously laid by the city, and provide room for the city lines in their conduits.

(*c*) By requiring all companies which may subse-

quently build conduits to complete a part of the general system, building the conduits on the lines and of the capacity prescribed by the city, and by requiring such companies to use the city conduits where available. The city could then require other companies to place their lines underground in the sections where the conduits were completed, fixing a uniform rental as explained in this report.

2. Pending legislation regarding the construction of conduits, the remainder of the $225,000 be appropriated so that the police and fire-alarm telegraph system may be extended, the service be thereby rendered more efficient and removed from danger. This appropriation should be made so that the work may be carried on through the spring and summer months.

3. The establishment of a Subway Commission, such as exists in other cities in this country, which shall direct and supervise the construction of electrical subways, the erection of poles and placing of wires in the public streets, and which shall be empowered to enforce all regulations relating thereto.

Respectfully submitted,

NICHOLAS S. HILL, JR.,
Engineer.

AGREEMENT AND SPECIFICATIONS

FOR

ELECTRICAL SUBWAY CONDUITS.

ELECTRICAL SUBWAY COMMISSION OF BALTIMORE CITY.

Engineer's Office, 508 Equitable Building.

AGREEMENT.

THIS AGREEMENT, made this..... .....day of ....., eighteen hundred and ninety-four, between..... of the first part, hereinafter called the Contractor, and the Mayor and City Council of Baltimore, of the second part, by "The Construction Committe of the Underground System of the Police and Fire-Alarm Telegraph and Police Patrol," hereinafter called the Subway Commission:

Witnesseth, That for and in consideration of the

agreements and payments hereinafter mentioned to be made and performed by the Subway Commission:

Work to be done as directed.

1. The contractor agrees that all work shall be done under the directien and supervision of the engineer of the Subway Commission, who shall decide as to the quality of the materials furnished and the manner of the performance of the work, all of which must be of the best of the various, kinds and must conform to the specifications attached hereto, which said specifications form a part of this agreement.

Appointment of and powers of Inspector.

2. The engineer of the Subway Commission shall, with the approval of the Subway Commissioners, appoint from time to time such inspector or inspectors as he may deem advisable, who shall report to the engineer of the Subway Commission all work and all materials not according to the specifications or inferior in any way, and the contractor will upon receiving notice from the said engineer, verbal or written, remove such materials and replace such work to the satisfaction of the said engineer without cost to the Subway Commission. Inspectors shall have the authority to examine all materials and work at any time or in any man-

ner they may deem proper, and the representatives, agent or agents in charge of the work on the part of the contractor shall upon receiving notice, verbal or written, from the inspector or inspectors, stop any work or reject any materials which the inspector or inspectors may disapprove until the engineer of the Subway Commission shall either approve or reject said work or materials.

Estimates furnished to include all charges.

3. The contractor agrees to include in his estimate all the labor and all the materials necessary for a complete system of underground conduits placed in the ground and fulfilling all the requirements of the attached specifications, said estimate to include every item of cost in the construction of said system of underground conduits, together with any additional expense which may accrue to said contractor for any special part of the work consequent upon obstructions met with or difficulties encountered of any character whatsoever, and the contractor shall not find the Subway Commissioners liable for any expense over and above the prices as set forth in the estimate furnished by the contractor. And the contractor further agrees that no claim for extra work shall, under any circumstances, be allowed

or considered unless ordered as such in writing by the engineer of the Subway Commission and approved by the Subway Commissioners.

Durability.

4. The contractor agrees to guarantee his system in all respects and make all repairs and pay for any and all damages resulting from the use of poor materials or defective design for a period of five years from the completion of the conduits, and must further file a bond.....to insure prompt repairs or payment of damages as aforesaid with the Subway Commissioners, the said bond to have endorsement satisfactory to the Subway Commissioners.

Competent and skilled labor to be employed.

5. The contractor agrees that he will employ only competent, faithful and skillful men to do the work, and whenever the engineer of the Subway Commission shall inform him in writing, that any man on the work is, in his opinion, incompetent or unfaithful, he will discharge him from the work and will not again employ him on it.

Right reserved to suspend the work.

6. The Subway Commissioners reserve the right of suspending the whole or any part of the work herein contracted to be done, if

they shall deem it for the interest of the city so to do, without compensation to the contractor other than extending the time for completing the work as much as it may have been delayed by such suspension.

Time of completion of work.

7. The contractor agrees to commence the work herein specified within ten days after notice from the engineer of the Subway Commission so to do, and to progress therewith so as to fully complete all the work herein contracted for on or before the expiration of the.....day thereafter; but in the computation of said time the number of days during which the prosecution of the whole work is suspended by the direction of the Subway Commission shall be excluded.

Extension of time, etc., not to be deemed a waiver of right to abrogate, etc.

8. The Subway Commissioners agree that if they shall deem it necessary and proper to extend the time herein fixed for the completion of this contract, they shall evidence the same by a certificate in writing. But neither an extension of time, for any reason, beyond the date fixed herein for the completion of the work, nor the doing or acceptance of any part of the work called for by the contract, shall be deemed to be a waiver by said Commissioners of the right to abrogate this

contract for abandonment or delay, in manner provided for in Article XI of this agreement.

Liquidated damages.

9. In case the contractor shall fail to fully and entirely, and in conformity to the provisions and conditions of this agreement, perform and complete the said work, and each and every part and appurtenance thereof, within the time hereinbefore limited for such performance and completion, or within such further time as the said Commissioners may allow for such performance and completion, the said contractor shall and will pay to the said Subway Commissioners the sum of twenty ($20) dollars for each and every day that he, the said contractor, shall be in default; which said sum of twenty ($20) dollars per day is hereby agreed upon, fixed and determined by the parties hereto, as the liquidated damages that the Subway Commissioners will suffer by reason of such default, and not by way of penalty. And the said Subway Commissioners may and shall deduct and retain said sum out of any monies that may be due or become due under this agreement.

Contractor not to sub-let or assign without consent of Commissioners.

10. The contractor agrees that he will give his personal attention constantly to the faithful prosecution of the said work; that he will not sub-let the said work, or any part thereof, without the previous written consent of the Subway Commissioners endorsed on this agreement, but will keep the same under his own control; that he will not assign, by power of attorney or otherwise, any of the moneys payable under this agreement unless by and with the like consent, to be signified in like manner; that no right under this contract nor to any moneys to become due hereunder shall be asserted against the Mayor and City Council of the City of Baltimore or any department, bureau or officer thereof by reason of any so-called assignment, in law or equity, of this contract, or any part thereof; that no person other than the party signing this agreement as contractor has now any claim hereunder.

Commissioners right to abrogate, etc., in case contractor abandons or delays, etc.

11. And the said contractor further agrees that if the work done under this agreement shall be abandoned, or if at any time the Subway Commissioners shall be of the opinion, and shall so certify in writing, that the said work, or any part thereof, is unnecessarily delayed, or that the said contractor

is willfully violating any of the conditions or covenants of this contract, or executing the same in bad faith, or that the work is not being done according to the terms of this contract, or if the said work be not fully completed within the time named herein for its completion, the said Commissioners shall have the power to notify the aforesaid contractor to discontinue all work under this contract, or any part thereof, by a written notice to be served upon the contractor either personally or by leaving the same at his residence or with his agent in charge of the work, and thereupon the said contractor shall discontinue said work or such part thereof, and the said Commissioners shall thereupon have the power to place such and so many persons as they may deem advisable, by contract or otherwise, to work at and to complete the work herein described, or said part thereof, or so much of said work or said part thereof as the Subway Commissioners may direct, and to use such materials as they may find on the work, or to procure, or cause to be procured, by contract or otherwise, all other materials for the completion of the same, and to charge the expense of said labor and materials to the aforesaid contractor, and the expense so charged shall

be deducted and paid by the Subway Commissioners out of such moneys as may be then due or may at any time thereafter become due to the said contractor, under and by virtue of this agreement or any part thereof; and in case the expense is less than the sum which would have been payable under this contract if the same had been completed by said contractor, he shall forfeit the difference; but in case the expense shall exceed the last said sum, he shall pay the amount of such excess to the Subway Commissioners; and when any particular part of said work is being carried on under the provisions of this article of the contract, the aforesaid contractor agrees to continue the remainder of the work in conformity with the terms of this agreement, and in such manner as in nowise to hinder or interfere with the persons or workmen employed by the Subway Commissioners to do any part of said work or to complete the same under this article.

Guards to prevent accidents

12. The contractor agrees, during the performance of the work, to place proper guards around all excavations, etc., to prevent accidents, and to keep burning, at night and every night from sunset to sunrise, suitable

and sufficient lights, and to indemnify and save harmless the Subway Commission from any and all damages and costs which he may sustain or to which he may be put by reason of injury to the person or property of another, resulting from negligence or carelessness in the performance of the work or by or in consequence of any negligence in guarding the same, or any improper materials used in the construction of the conduits or by or on account of any act or omission of the contractor or his agents; and the contractor further agrees that the whole, or so much of the moneys due to him for any work he may perform under the terms of this agreement, as shall or may be considered necessary by the Subway Commissioners, shall or may be retained by the Subway Commissioners until all claims and suits for damages as aforesaid shall have been settled, and evidence to that effect furnished to the satisfaction of the Subway Commissioners.

Protection of water-pipes and sewers.

13. The contractor agrees to sustain, in their places, by suitable means, without injury, all the main and service water-pipes and sewers which may be affected in any manner by the work to be done in the con-

struction of the conduit system, and to protect all pipes from freezing. In the event of a failure to do so the contractor further agrees that the Subway Commissioners shall be authorized to have replaced such pipes, mains or sewers, and to have the same recalked and repaired immediately, in each block as the work progresses, the cost therefor to be charged to the contractor; the cost so charged to be deducted from any sum or sums due or to become due or payable to the contractor under the terms of this agreement.

Notice to gas companies.

14. The contractor agrees to give notice, in writing, twenty-four hours before ground is broken for the purpose of constructing conduits, to gas companies having mains or pipes which may be affected by such excavations as may become necessary.

Gas-pipes to be protected.

15. The contractor agrees to do everything necessary to support and sustain the gas-pipes laid in or across streets where conduits are to be laid, and which may be liable to injury from digging trenches for the work herein mentioned; and the contractor further agrees to cause no hindrance to or interference with any gas company or companies in

protecting their said pipes, nor in removing or otherwise protecting or replacing the main and service pipes where necessary, but that the contractor will suffer said company or companies to take all such measures as may become necessary for the purpose aforesaid.

Penalties of damage to gas-pipes.

16. The contractor agrees that in case any damage or injury shall or may result to the said main and service pipes or other works of the gas company, through or by reason of any carelessness, negligence or want of skill on the part of the contractor, his agents or servants, he shall become liable to pay such amount as shall or may be sufficient to cover the expense and damage occasioned by such negligence, carelessness or want of skill, and that such amount shall or may be charged against the contractor, and may be deducted from any sum or sums due or to become due or payable to the contractor under the terms of this contract.

Protection to conduits, C. & P. Tel. Co.

17. The contractor agrees that wherever the conduits hereinbefore mentioned are to be connected into the man-holes of the Chesapeake and Potomac Telephone Company he shall perform the work in the man-

ner prescribed and according to the wishes of the said company, and the contractor further agrees to do everything necessary to support and sustain the conduits of the said telephone company which may be liable to injury from digging the trenches for the work herein mentioned, and to protect the man-holes of said company from any damage whatsoever.

Penalties to C. & P. Tel. Co.

18. The contractor agrees that, in case any damage or injury may result to the said conduits or man-holes or other works of the said company through or by reason of any carelessness, negligence, want of skill or failure to comply with the wishes of said company on the part of the contractor, his agents or servants, he shall become liable to pay such amount as shall or may be sufficient to cover the expense and damage occasioned by such negligence, carelessness, want of skill or failure to comply with the wishes of said company, and that such amount shall or may be charged against the contractor, and may be deducted from any sum or sums due or to become due or payable to the contractor under the terms of this contract.

Protection to adjacent property of every character.

19. The contractor agrees to protect all other property which may be affected by the work herein described from any damage whatsoever, and further agrees that in case any damage or injury may result to the property of another from any carelessness, negligence or want of skill on the part of the contractor, his agents or servants, he shall become liable to pay such amount as shall or may be sufficient to cover the expense and damage occasioned by such negligence, carelessness and want of skill, and that such amount shall or may be charged against the contractor, and may be deducted from any sum or sums due or to become due or payable to the contractor under the terms of this contract.

Contractor not to interfere with other work.

20. And the contractor further agrees that if before the completion of the work contemplated herein it shall become necessary to do any other or further work on or about the same than is provided for in this contract, he will not in any way interfere with or molest such other person or persons as the Subway Commissioners may employ to do such work, and will suspend such part of the work herein specified, or will carry on the same in such manner as may be ordered

by the engineer of the Subway Commission, so as to afford all reasonable facilities for the doing of such work; and no other damage or claim by the said contractor therefor will be allowed, except such extension of the time specified in this contract for the performance thereof as the said Commissioners may deem reasonable.

Indemnify in case of infringement of patents.

21. And it is hereby expressly agreed and understood by and between the parties hereto that the said contractor shall and will at all times indemnify and save harmless the said Subway Commissioners against any and all loss or damages, cost or expenses arising out of any claim or suit for infringement of any patent or patents affecting any articles furnished under this contract.

Price.

22. And the contractor agrees to receive, and the Subway Commissioners to pay, as full compensation for furnishing all the materials and labor which may be required in the prosecution of the whole of the work to be done under this agreement and in all respects completing the same, the prices as set forth in the following schedule:

TRUNK LINES AND LATERALS.

Laid Beneath. Price per Foot for Duct. Size of Ducts.	Number.	Belgian Blocks.	Sheet Asphalt.	Block Asphalt.	Cobble Stones.
3″	1	$ 34	$1 04	$ 57½	$ 31½
	2	22½	67	39	21½
	4	15½	38	23½	15
	6	14	32½	21	13½
2″½	1	33	1 03½	57	30
	2	21½	66	38	20½
	4	14½	36½	22½	14
	6	13	31½	20	12½
2″	1	.....	.....	.....	.....
	2	.....	.....	.....	.....
	4	11½	33½	20	11½
	6	.....	.....	.....	.....
1″½	1	.....	.....	.....	.....
	2	.....	.....	.....	.....
	4	11½	33½	20	11½
	6	.....	.....	.....	.....

SUBSIDIARY DUCTS.

Laid Beneath. Price per Foot of Duct. Size of Duct.	Belgian Blocks.	Sheet Asphalt.	Block Asphalt.	Cobble Stones.
3 inch.	$ 32½	$ 68	$ 44½	$ 31½
2½ "	38	73½	40½	27½
2 "	23½	48½	34½	22

Man-holes, complete, each	$70 00
Distribution boxes, complete, of brick, with cast-iron covers, each	24 00
Distribution boxes, complete, of cast-iron, each	19 00
Cast-iron posts, each, as per our drawings, Type 2, set on ground and complete	7 50

Final: Upon the expiration of thirty (30) days after all the material and work shall have been completed and material shall have been furnished in conformity with the terms of this contract, and the Subway Commissioners shall have accepted the same, they will pay to the contractor whatever money or moneys is due or payable to him for the completion and performance of said work.

Provided, Nevertheless, that the Subway Commissioners shall reserve and retain out of each of said payments above mentioned ten per centum thereof, as security, until the final payment shall be made.

Measurement of work.

23. The contractor agrees that all work shall be measured up by the engineer of the Subway Commission, and that payment will be made on the number of feet of conduit actually laid, at the price per foot per duct agreed upon under the terms of this contract as found correct from these measurements.

24. The contractor further agrees that payments for man-hole and distribution boxes will be made upon the number of such man-holes and distribution boxes actually built at the price per man-hole or distribution box agreed upon under the terms of this contract.

Payments to be made only on certificate of inspector.

25. And it is hereby expressly agreed and understood that the contractor shall not be entitled to demand or receive the said sum above mentioned, nor any portion or installment thereof, except in the manner and at the times hereinbefore set forth, nor unless nor until he shall produce to the Subway Commissioners the certificate of the engineer of the Subway Commission that he, the contractor, has so far performed this agreement on his part as to entitle him to demand and receive such portion or installment, and has so far in all respects performed, complied with and conformed to the promises, undertakings, agreements, terms and conditions of this contract on his part mentioned and contained; and that nothing herein contained shall be construed to affect the right hereby reserved of the Subway Commissioners or the engineer of the Subway Commission to reject the whole or any portion of the aforesaid work, and to refuse to pay any part or all of the said sums hereinbefore mentioned, should the said certificates, or any of them, be found or known to be false or inconsistent with the terms of this agreement or otherwise improperly given.

In witness whereof, The contractor hath to these presents set..... hand and seal, and the Mayor and City Council of Baltimore have caused these presents to be executed on the part of the said Mayor and City Council of Baltimore through and by the chairman of the Construction Committee of the Underground System of Police and Fire-Alarm Telegraph and Police Patrol.

Witness:

SPECIFICATIONS.

1. It is not the object of these specifications to limit contractors and manufacturers in the choice or design of details.

2. Estimates will be received for the four following types of conduit, and these types only: Form in which estimates are to be submitted.

1. Creosoted wood conduits.
2. Treated wrought-iron pipe, laid in concrete.
3. Cement-lined tubes, laid in concrete.
4. Terra-cotta tubes, laid in concrete.

All estimates must conform to the specifications and schedule at the back of these specifications, and must be submitted upon

these schedules. No bids will be recognized unless submitted in the manner prescribed.

The price per foot per duct for trunk lines and laterals to include all the materials and work necessary to complete the conduits, connect them into the man-holes of the Chesapeake and Potomac Telephone Company where directed, and restore the paving exclusive of the cost of man-holes and distribution boxes and subsidiary ducts.

Estimates for man-holes and distribution boxes to include everything pertaining to a complete man-hole or distribution box.

The estimate for subsidiary ducts to include connections with the distribution box or man-hole and leading the duct into the post, or up the pole, supporting the fire-alarm or police patrol box, and at least eighteen (18) inches above the sidewalk, or into the buildings to which distribution is made.

The cast-iron posts called for in the schedule shall be of suitable design to accommodate either the police-patrol or fire-alarm boxes, or both. The estimate should include setting, restoring, paving, painting, etc.

Estimates must be itemized, if requested.

3. Contractors will, if requested, furnish itemized estimates, which will show in detail the character and cost of the materials and labor which they propose to furnish for each part of the work.

Drawings and specifications to be submitted with estimates.

4. Contractors must furnish with their estimates detailed drawings and specifications for the system which they propose to construct; said specifications to cover in detail all the requirements called for in these specifications.

Conduits to be located in streets, and of the size specified.

5. Contractors shall place the conduits in the streets indicated upon plats which will be furnished by the engineer of the Subway Commission, and shall build the conduits of the size, capacity and length as set forth in schedules which will be furnished by the engineer of the Subway Commission.

Protection to be afforded cables from all injury.

6. Conduits must be so constructed as to protect cables placed therein from any or all injury which may result from the failure of the conduits when subjected to the tools of workmen engaged in other and outside work, from burrs or sharp edges in the conduit due to faulty construction of the conduits, from the destructive action upon the lead cable

casing arising from the presence of chemicals used in the manufacture of the conduits or from any other source.

Facility for laying, inspecting and removing cables.

7. Provision must be made for laying, inspecting and removing cables, and contractors must in every instance place "drawing-in" wires in position in all ducts; said wires to be 10 B. S. G. galvanized iron, as free from joints as possible; joints to be strong and close to prevent fouling in pipes. All bends in conduits and ducts must be of a suitable radius to allow free passage of the cables. Sharp corners in man-holes and distribution boxes, where conduits are connected into man-holes, shall be avoided, and all corners shall be rounded off.

Man-holes and distribution boxes must be so designed as to allow ample room for splicing, testing, etc.

Method of distribution.

8. All distribution must be made underground. Distribution boxes must be placed opposite all points where fire-alarm boxes, engine-houses, etc., are located, and at other points, as directed by the engineer of the Subway Commission.

Subsidiary ducts must be led to all posts or poles upon which alarm or patrol boxes are located, and into engine-houses and other buildings where circuits are to be carried.

The method of leading ducts into cast-iron posts, of fastening them to telegraph poles, etc., upon which alarm or patrol boxes are located, and the provisions to be made for protecting and drawing in wires to be connected to said boxes must be described in the specifications submitted by contractors.

At points where the conduit system ends and the wires are carried overhead a duct must be led to and up the poles, as directed by the engineer of the Subway Commission.

Provision to be made for future additions.

9. Contractors must make provisions for future additions, so that should future requirements call for increased capacity, the capacity of the conduits may be readily increased.

Conduits to be water-tight and free from gas.

10. All conduits and man-holes must be water-tight, and every precaution must be taken to prevent gas leakage. All joints must be tight and well made. Means of ventilation must also be provided, which

shall efficiently relieve the conduits of any gas which may leak into them despite precautions to prevent it.

Cable to be protected from electrloysis.

11. Contractors must provide means to protect cables laid in their system from electrolysis and must fully describe in their specifications the methods they propose to prevent it.

Method of laying trunk-lines and laterals.

12. All trunk line conduits and laterals must be laid in trenches of suitable depth, all trenches to be leveled to grade. When types No. 2, No. 3 and No. 4 are proposed, the trunk line conduits and laterals must be laid in concrete; said concrete to fulfill the requirements of the specifications for that material.

When type No. 1 is proposed, the conduits must, in every case, be laid upon a two-inch creosoted wood plank, and be protected by a two-inch creosoted wood plank laid on top.

The creosoted wood ducts, wrought-iron tubes, cement-lined tubes and terra-cotta tubes must conform to the special specifications for these materials.

13. Subsidiary ducts may be laid six inches below the surface of the street paving. "Extra strong" wrought-iron tubes laid directly in the earth are preferred for this work. These ducts shall, in every case, have easy bends. Method of laying subsidiary ducts.

14. Man-holes shall be constructed of brick laid in cement mortar, with cement bottom (see specifications for brick and cement mortar), and have a cast-iron frame (see specifications for cast-iron) placed over all, the top of which shall be arranged to come flush with surface of street. Requirements for man-holes

The joints between the conduits and man-holes must be carefully made to prevent any leakage from water or gas.

The cast-iron frame shall be well bedded, on the top of the brick walls, in cement mortar. Care shall be taken to lay the cement mortar sufficiently thick to insure a tight joint all the way around the man-hole.

The entire surface of the frames, before being placed in position, shall be treated with P. and B. paint or some other equally good material, to be approved by the engineer of the Commission.

Man-holes shall be provided with double covers, the bottom cover to be water-tight. The upper cover shall be sufficiently strong to bear the heaviest loads to which it may be subjected under ordinary traffic.

Each upper cover shall have cast on it the initials "P. & F. A. T.," and in addition shall have a number cast on it, commencing with No. 1, no two covers having the same number. The covers to be placed as directed by the engineer of the Subway Commission.

Hangers shall be placed in rows at the side walls of the man-holes to carry the cables. There shall be as many rows of hangers in any particular man-hole as there are ducts in the conduits entering that man-hole.

The hangers shall be divided equally between the two sides of a man-hole.

Requirements for distribution boxes.

15. Distribution boxes shall be built of brick with cast-iron covers and cement floors where conduits of Types No. 1, No. 3 and No. 4 are proposed. Where Type No. 2 is proposed either the above form or cast-iron distribution boxes may be used.

When cast-iron is used the iron must conform to the special specifications for cast-iron, and the entire surface of the distribution box, inside and outside, must be treated with P. and B. paint or some other equivalent material to be approved by the engineer of the Subway Commission.

Board racks must be placed at the bottom of all distribution boxes to support the cables and remove them from the floor of the boxes.

The materials and methods of construction to be employed where brick distribution boxes are proposed must fulfill the requirements of the specifications for man-holes. All distribution boxes shall have double covers, and the upper covers shall be numbered as before described.

16. *Specifications for creosoted wood ducts.*

1. The wood to be used shall be untapped Southern yellow pine, free from knots, wind or heart shakes, and other defects.

2. The wood shall be treated with 12 pounds of the creosoting liquor per cubic foot.

3. The creosoting liquor is to be of the description known as heavy oil of tar, obtained by the distillation of coal-tar, and consisting of that portion of the distillate which comes over between the temperature of 350° F. and 760° F.

4. The liquor must be free from admixture of any oil or other substance not obtainable from such distillate. It shall contain not less than 20 per cent. nor more than 30 per cent. of constituents that do not distil over at a temperature approaching 600° F.

5. It must yield not less than 9.0 per cent. by volume of tar acids.

6. The creosoting liquor must become completely fluid when raised to a temperature of 100° F., and exhibit no signs of any deposit on cooling down to a temperature of 93.5° F.

7. The specific gravity of the liquor must not be less than 1.035 nor more than 1,065 at a temperature of 90° F., as compared with water at 60° F.

17. *Specifications for wrought-iron pipe.*

1. Two grades of pipe will be used, known as "Standard" and "Extra Strong." "Standard" pipe to be used on trunk lines and laterals, and wherever the pipe is laid in concrete. "Extra Strong" to be used for subsidiary ducts and wherever pipe is laid directly in the ground.

2. The pipe is to be free from burrs, to be connected with screw couplings, and when completed, water-tight.

3. The material desired for pipe is soft, homogeneous, puddled iron or steel.

4. Pipe must conform to dimensions in the following table:

Nominal Size Inside Diam'tr	Actual Outside Diameter.	No. Threads per in. of screw	Standard.		Extra Strong.	
			Thickness.	Weight per Ft.	Thickness.	Weight per Ft.
1 in.	1.31 in	11½	0.134 in.	1.67 lbs.	0.182 in.	2.17 lbs.
1½ "	1.90 "	11½	0.145 "	2.68 "	0.203 "	3.63 "
2 "	2.37 "	11½	0.154 "	3.61 "	0.221 "	5.02 "
2½ "	2.87 "	8	0.204 "	5.74 "	0.280 "	7.67 "
3 "	3.50 "	8	0.217 "	7.54 "	0.304 "	10.25 "

5. Pipes must not vary more than five (5) per cent. from weights given in table. All pipes must have a vanishing thread as employed for pipes used in the New York subways.

6. Any piece showing mechanical defects or showing much variation from dimensions given will be rejected. When the number rejected amounts to 20 per cent. of the entire shipment, the entire shipment will be rejected.

7. All pipes must be treated inside and outside with asphaltum applied while hot.

18. *Specifications for cement-lined pipe.*

1. The tubes shall be lined with five-eighths ($\frac{5}{8}$) of an inch of pure cement, (no sand or other injurious matter being used), the cement to fulfill the requirements of the special specifications for cement.

2. The interior surface of the cement lining must be smoothly finished, true and cylindrical, and of the specified diameter.

3. The thickness of the cement-lining shall be full five eighths ($\frac{5}{8}$) inches throughout the entire length of each tube. For every one hundred tubes contractors must furnish one extra tube, which shall be picked at random from a pile of one hundred tubes, and cut by the inspector at any point in its length, and the thickness of the lining measured. Should the lining at any point in this tube fall below one-half ($\frac{1}{2}$) of an inch in thickness, the lot of one hundred tubes will be rejected. If the lining is of the required thickness throughout, the lot of one hundred tubes will be accepted.

4. The wrought-iron used in the shell of these ducts shall be of good quality, capable of being bent and twisted without breaking, and the weight per square foot shall be seventy-two pounds, equal to No. 26 B. W. G.

5. Every shell shall be thoroughly riveted with rivets of the proper size and weight, and the rivets shall be not more than one and one-half ($1\frac{1}{2}$) inches apart.

19. *Specification for terra-cotta tubes.*

Terra-Cotta tubes shall be of the best manufacture, sound and thoroughly burnt throughout their whole substance, and the internal and external surfaces smooth and well glaled. They shall be cylindrical in bore, and internally of the full specified diameter. The thickness shall be uniform throughout the entire body of the tubes. All tubes shall be made to fit without being chipped.

20. *Specifications for bricks.*

All bricks must be of standard size 2x4x8¼ inches, regular in shape, tough and burned hard entirely through. Bricks must not contain lime or other soluble substances in sufficient quantities to produce spalling or splitting when soaked in water for three consecutive days.

Bricks must be non-porous, and must not absorb more than 6 per cent. of their weight of water when immersed for twenty-four hours.

21. *Specifications for cement.*

The cement to be used on the work herein described shall be of good quality, fresh and

finely-ground Rosendale, or other good quality cement, to be approved by the engineer of he Subway Commission.

Cement when mixed neat shall be capable of resisting a tensile strain of 60 pounds to the square inch, after hard set and 24 hours immersion in water, and 150 pounds after exposure in air for one day and six days immersion in water, and 225 pounds in 28 days.

When mixed with one part cement and two parts standard sand, it shall be capable of resisting a tensile strain of 40 pounds per square inch, after exposure to air for one day and six days immersion in water, and 80 pounds in 28 days.

The cement shall be slow-setting, and when gauged neat shall bear a wire one-twelfth of an inch in diameter weighted with one-quarter of a pound within 25 to 50 minutes, and shall bear a wire one-twenty-fourth of an inch diameter weighted with one pound within one hour to one hour and a-half from time of setting.

The cement shall be of such a fineness that 92 per cent. will pass through a No. 50 sieve, with 2,500 meshes to the square inch.

22. *Specifications for concrete.*

Concrete shall be composed of four measures of oyster shell, two measures clean, sharp sand, and one measure of cement as previously described; to be made and thoroughly mixed before using, and well rammed in place; the cement and sand to be mixed dry before the incorporation of the oyster shells. It must contain just sufficient water to film the surface of the concrete when rammed, but not enough to make it quake. Concrete must be mixed on wooden mortar beds.

23. *Specifications for cement mortar.*

The cement mortar must be made of cement as previously described, in proportion of one part cement to two of clean, sharp sand, or such other proportion as may be required by the engineer of the Subway Commission. The cement mortar shall be mixed only as required for use, and must be used as soon as mixed, as none left standing until set will be allowed in the work. It must be mixed on wooden mortar beds.

24. *Specifications for cast-iron.*

Castings for man-hole and distribution box frames and covers and other work must be of good, sound iron, free from flaws.

Castings must have a good, clean, smooth surface, free from fins and other imperfections, and must conform to drawings.

No letters or numbers to be used except as directed by the specifications.

ANNUAL REPORT

OF THE

HARBOR BOARD

TO THE

MAYOR AND CITY COUNCIL OF BALTIMORE,

FOR THE

FISCAL YEAR ENDING DECEMBER 31, 1894

HARBOR BOARD OF BALTIMORE,

JANUARY, 1895.

F. C. LATROBE, Mayor,

President ex-officio.

JAMES S. WOODSIDE,

Secretary of Board. — *Executive*

EDWARD J. CODD, — *Committee.*

HENRY WILLIAMS,

FIELDER C. SLINGLUFF,

MARTIN WAGNER,

J. VERNON CAMPBELL,

N. H. HUTTON, *Engineer,*

J. H. IRVIN, Jr., *Clerk.*

REPORT.

OFFICE OF THE HARBOR BOARD OF BALTIMORE,

January, 1895.

To the Honorable the Mayor
and City Council of Baltimore:

GENTLEMEN:

The undersigned committee acting under instructions from the Harbor Board, have the honor to submit the following report of operations during the year 1894.

The moneys appropriated for use of the Board during the year, were:

For harbor, docks, channels, etc.....	$35,000 00
For widening harbor mouth.....	5,000 00
For dredging in Jones' Falls.....	15,000 00
For operation and repair of ice-boats.....	22,000 00
For repair of public wharves.....	3,000 00
For removal of ashes from tow-boats.....	1,500 00
An aggregate of.....	$81,500 00
There was also received from the Harbor and River Relief Board on account of ice-boat *Annapolis*, the sum of.....	$1,713 94
Making a total available of.....	$83,213 94

Of this amount the $1,713.94 as above was really due for unpaid accounts approved by the Harbor and River Relief Board, mainly for electric lights and wharfage on account of the *Annapolis*.

MAINTENANCE AND IMPROVEMENT OF HARBOR, DOCKS AND CHANNELS.

For this division of the Board's duties, after due advertisement, a contract was concluded with the lowest bidder (the Baltimore Dredging Company) at the following prices:

Harbor and Channels	12	cents per	cub. yd.
Back Basin and Docks	15	"	"
Middle Branch	12½	"	"
Mouth of Harbor	25	"	"

Work was commenced under this contract on June 18th, and completed on November 6th.

There were removed 186,224 cubic yards, at an average price paid contractor of 13.87 cents per yard.

BACK BASIN AND DOCKS.

The City Dock, or Back Basin, was dredged to a least depth of 15 feet at mean low water, including docks at eastern end and channels through the drawbridge. Excavations of sewer deposits were also made in several

docks in the harbor, including the mouth of Harris'-Creek sewer.

There were removed under this head 60,334 cubic yards.

HARBOR AND CHANNELS.

The ship channel off Locust Point was widened 45 feet to 27 feet depth.

The 27 feet depth across lower harbor, from Locust Point to Canton, was extended northward a width of 90 feet.

Channels were also dredged to wharf at Quarantine Station, to sea-wall at Marine Hospital, and to Charles-street wharf.

Excavations under this head were 60,529 cubic yards.

MOUTH OF HARBOR.

The small area of shoal left last year at this place was removed to 27 feet depth, giving an additional width at harbor-mouth of 250 feet for heavy draft vessels over that existing previous to the removal of Foley's wharf.

Excavations under this head were 10,770 cubic yards.

MIDDLE BRANCH.

Sewer deposits were removed to 12 feet depth from the upper end of this basin, about the mouths of Chatsworth, Eutaw-street and Howard-street sewers. An addition of 45 feet in width was also made to the 17-feet deep channel below Light-street bridge, making it now 180 feet wide.

Excavations amounted to 54,591 cubic yards.

JONES' FALLS.

At same time as for harbor work proposals for dredging in Jones' Falls were received, and the contract awarded to the Baltimore Dredging Company at 35 cents per cubic yard.

Operations were commenced on June 21st, and completed September 27th.

Deposits to 12 and 14 feet depth at low water were removed between Canton avenue and Fayette street.

The quantity removed was 35,228 cubic yards, and total expenditures were $15,000, which includes amount paid contractors and all expenses of administration, supervision, use of tug, surveys, etc.

Especial attention is called to the Engineer's report in relation to Jones' Falls, as the covering of this stream, if practicable, would be an unquestioned great public benefit.

TOTAL DREDGING.

The whole area covered by dredging during the year was 1,277,100 square feet, the dredging was 221,452 cubic yards, and average depth of cutting 4 feet 8 inches.

LAWS RELATING TO HARBOR.

In accordance with Resolution No. 43, approved February 27, 1894, the Harbor Board submitted to the Mayor and City Council a revision of Article 22, City Code, which was adopted as per Ordinance No. 116, approved June 13, 1894, and 500 copies of same printed as directed by Resolution No. 257, approved June 14, 1894. The cost of printing was $115.

REPAIR OF WHARVES.

Very slight repairs to public wharves were made as recited in Engineer's report. The rip-rap protection to the sea-wall at Quarantine Station was overhauled and put in good condition. A wharf 16 feet by 200 feet was built for use of Naval Reserves at foot of Charles street. Expenditures were $2,455.29, including supervision, etc.

REMOVAL OF ASHES FROM TOW-BOATS.

There were received from tow-boats and deposited behind sea-wall at the old Marine Hospital, 49,818 bushels of ashes received from 74 tow-boats. Expenditures were $1,454.86.

ICE-BOATS.

By Act of the General Assembly at its last session the ice-boat *Annapolis* was transferred from the Harbor and River Relief Board to the control of this Board.

The transfer was made on June 1, since which date the vessel has been under the control and management of the Harbor Board. Before the possibility of ice in the river or harbor, notice was given by public advertisement, as well as by circular letters to Board of Trade, and Corn and Flour Exchange, informing all persons interested that the ice-boats were ready to afford any required aid to the commerce of the port at a few hours notice.

There was no occasion during 1894 for the use of either boat as an ice-breaker.

The *Latrobe* has had very extensive repairs made to wheels and machinery, and is now in good condition, except (as stated last year) the wood-work of decks, chocks, etc., which it is absolutely necessary to renew;

especial attention in this respect is asked to the appeal of the Engineer of the Board.

The *Latrobe* has been engaged as usual during the summer in the service of the Free Summer Excursion Society, for which twelve (12) trips were made, conveying about 15,668 persons to and from Chesterwood.

The extra cost of this service, amounting to about $1,200 per annum, is borne by the city and taken out of "appropriation for ice-boats."

Expenditures for ice-boats were $23,649.66.

A year or two ago, when the insurance companies established what is known as the 80 per cent. rule, that is, requiring insurance to be taken out to 80 per cent. of total value of property insured, the Board did not consider it advisable to continue insurance on ice-boats. Neither boat is now insured, and if the Council deem it advisable to insure them, it will require an appropriation of about $1,600 per annum, *at the lowest rates.*

REQUIREMENTS FOR 1895.

The following statement includes the amounts deemed desirable for 1895.

In connection with the harbor maintenance and improvement, it is desired that at least $20,000 be appro-

priated at an early day to permit the removal of sewer deposits from docks before warm weather.

For harbor maintenance, etc	$50,000 00
" dredging Jones' Falls	15,000 00
" repair and operation of ice-boats	25,000 00
" repair of public wharves	3,000 00
" new bulkhead in city dock	6,000 00
" removal of ashes from tow-boats	1,500 00
Making a total	$100,500 00

For further details of work and expenditures reference is respectfully requested to the appended report of the Engineer of the Board, whose views and recommendations are approved and endorsed.

On behalf of the Board:

HENRY WILLIAMS,
JAMES S. WOODSIDE,
E. J. CODD,

Committee.

Approved by the Board:

JAMES S. WOODSIDE, *Secretary.*

ENGINEER'S REPORT.

Statement of Receipts and Disbursements of the Harbor Board of Baltimore for the Year Ending December 31, 1894.

	Harbor.		Dredging Jones' Falls.		Widening Mouth of Harbor.		Ice-boats.		Repairs to Wharves.		Removal of Ashes from Tow-boats.		Removal of Wrecks. See Sec. 10, Art. 22, City Code.	
Appropriation for work of 1894		$35,000 00		$15,000 0		$5,000 00		$22,000 00		$3,000 00		$1,500 00		No Appropriation.
Received from Harbor and River Relief Board								1,713 94						
Available money for work of 1894		$35,000 00		$15,000 00		$5,000 00		$23,713 94		$3,000 00		$1,500 00		
Advertising	$ 35 40		$ 10 87		$ 10 86									
Contracts for dredging	23,137 44		12,329 80		2,692 50									
General administration	4,138 44		963 53		300 00									
Labor and material for repairs to wharves (work done by Harbor Board and by contract)									$2,455 29					
Printing laws relating to harbor	115 00													
Removal of ashes from tow-boats											$1,454 86			
Removal of wrecks													$560 00	
Supervision of dredging	1,638 12		685 61		91 16									
Surveys	501 56		17 44											
Tug and ice-boats:														
Baltimore.														
Advertising														
Crew $4,779 96														
Fuel 630 00														
Repairs 443 01														
Supplies 105 95	4,748 42		992 75		217 75		$23,649 66							
Wharfage														
Electric light plant														
F. C. Latrobe.														
Advertising $ 7 41														
Crew 6,270 59														
Fuel 275 00														
Repairs 9,323 89														
Supplies 458 96														
Wharfage														
Electric light plant 1,475 84														
Annapolis.														
Advertising $ 7 42														
Crew 2,627 00														
Fuel 8 50														
Repairs 762 98														
Supplies 549 06														
Wharfage 385 42														
Electric light plant 1,497 59														
Total $5,958 92 / $17,811 69 / $5,837 97														
Unexpended balances	685 62				$1,687 73		64 28		544 71		45 14			
	$35,000 00	$35,000 00	$15,000 00	$15,000 00	$5,000 00	$5,000 00	$23,713 94	$23,713 94	$3,000 00	$3,000 00	$1,500 00	$1,500 00	$560 00	

APPROVED: N. H. HUTTON, *Engineer Harbor Board.*

Respectfully submitted, J. H. IRVIN, JR., *Clerk Harbor Board.*

Statement of Contracts Let and Work Done (Dredging, Repairs to Ice-Boat, Repairs to Wharves and Removal of Ashes) During 1894, Under Supervision of the Harbor Board of Baltimore.

By Whom Done.	Kind of Work.	Date of Contract.	Prices.	Work Done.
Baltimore Dredging Company	Dredging	June 15, 1894	12 cents per cubic yard	60,529 cubic yards.
" " "	"	" "	15 " "	60,334 " "
" " "	"	" "	12½ " "	54,591 " "
" " "	"	" "	25 " "	10,770 " "
" " "	"	" "	35 " "	35,228 " "
Charles Reeder & Sons	New waterwheels, etc., for ice-boat *Latrobe*	June 14, 1893	$8,464.83, of which $4,570.13 paid in 1894	Completed.
James Clark Company	New steam drums, *Latrobe*	June 22, 1894	$3,500	"
Andrew Brown	Rep. to Charles-st. wharf (labor and material)	December 8, 1894	$833.11	
Harbor Board	Rep. to Little Hawk Pt. wf.		739.65	$2,455.29 "
	Sundry repairs to wharves.		260.60	
	Supervision of wharves		621.93	
Harbor Board	Removal of ashes from tow-boats		Maintenance of ash-scow $1,454.86	49,818 bus. dumped

Location of Dredging.	Approximate Area Dredged.	Depth of Water Obtained.
Jones' Falls	234,000 square feet.	12 to 14 feet.
Mouth of Harbor	60,000 " "	27 "
Middle Branch	350,750 " "	12 to 17 "
Harbor and channels generally	280,760 " "	15 to 27 "
Docks	57,090 " "	12 to 17 "
Back Basin	294,500 " "	15 "

SUMMARY OF ALL DREDGING (except Jones' Falls.)

Year.	Area Dredged.	Average Depth of Cutting.	Total Excavation.
1894	1,043,100 square ft.	4 feet 9½ inches.	186,224 cubic yds.
1876 to 1893 inclusive	40,503,091 "	4 " 11½ "	7,418,291 "
Total, 1876 to 1894 inclusive	41,546,191 "	5 " 3 "	7,604,515 "

APPROVED: N. H. HUTTON, *Engineer Harbor Board.*

Respectfully submitted, J. H. IRVIN, JR., *Clerk Harbor Board.*

REPORT.

OFFICE OF THE ENGINEER OF THE HARBOR BOARD,

BALTIMORE, January, 1895.

To the President and Members
of the Harbor Board of Baltimore:

GENTLEMEN:

I have the honor to submit the following report of the operations during the year ending December 31, 1894.

The appropriations by the Mayor and City Council for the year were as follows:

For harbor maintenance and improvement, including operation and repair of tug	$35,000 00
For widening mouth of harbor	5,000 00
" dredging in Jones' Falls	15,000 00
" operation and repair of ice-boats	22,000 00
" repair of public wharves	3,000 00
" removal of ashes from tow-boats	1,500 00
Making a total of	$81,500 00
There was also received from the Harbor and River Relief Board on June 1	1,713 94
Making an available total of	$83,213 94

HARBOR.

Surveys. Sufficient hydrographic surveys were made during the spring, of main harbor, Back Basin, Docks, Jones' Falls, and channels in the Middle Branch to determine the details of such dredging as the appropriations would permit.

Condition of Jones' Falls. It was ascertained that the upper portion of the work done in Jones' Falls had been largely filled by deposits during the winter;

Back Basin. the Back Basin was mainly injured by deposits at the western end from Jones' Falls, and at the eastern end from Harford-Run sewer. The docks and main harbor were in fair condition.

Middle Branch In the Middle Branch sedimentary deposits were mainly at upper end, near Chatsworth, Eutaw and Howard-street sewers.

After due advertisement, proposals for dredging were opened on June 7, as per following abstract:

	Harbor and Channels		Back Basin & Docks.		Middle Branch.		Mouth of Harbor.		Jones' Falls.	
	Dumped in River or Bay.	Put behind Sea-wall.	Dumped in River or Bay.	Put behind Sea-wall.	Dumped in River or Bay.	Put behind Sea-wall.	Dumped in River or Bay.	Put behind Sea-wall.	Dumped in River or Bay.	Put behind Sea-wall.
Baltimore Dredging Co....	12c.	21c.	15c.	24c.	12½c	21½c	25c.	34c.	35c.	.....
Sanford & Brooks.....	12½c	.....	15½c	.....	13c.	.....	26c.	.....	36c.	.....

Price per cubic yard.

The contract was awarded to the lowest bidder—the Baltimore Dredging Company—at their schedule prices for material dumped into the river or bay. It is much to be regretted that it was not found expedient to accept their offer to put the dredged material behind the sea-wall at the old Marine Hospital for nine (9) cents additional to prices for dredging and dumping in open water. Contract. Offer to put material behind sea-wall.

The bid is lower than any ever before received, and the cost would be probably lessened if more of the material dredged in the river and harbor was compelled to be put behind bulkheads, as it soon must be.

Work under this contract was commenced and completed, in the several sub-divisions, with quantities excavated as below: Work done.

Location.	Commenced.	Completed.	Quantity Excavated.
Jones' Falls.	June 21.	Sept. 27.	35,228 cubic yards.
Back Basin and Docks..	June 25.	Aug. 7.	60,334 "
Middle Branch..... ...	Aug. 15.	Sept. 17.	54,591 "
Mouth of Harbor..... ...	Aug. 5.	Aug. 17.	10,770 "
Harbor, Channels, etc..	Sept. 17.	Nov. 6.	60,529 "

The total amount of excavation was 221,452 cubic yards.

JONES' FALLS.

Survey.

A resurvey of this stream in May, 1894, showed that since the close of operations on November 20, 1893, the bed of the stream has been filled up, as follows:

Depths of filling.

Between	Fayette and Baltimore streets	10½ feet.
"	Baltimore and Lombard streets	7½ "
"	Lombard and Pratt streets	5½ "
"	Pratt street and Eastern avenue	4 "
"	Eastern and Canton avenues	2 "

Indicating that a larger portion of the material washed into the stream was deposited between Fayette and Pratt streets, the amount of deposit (for a very dry season) being between 40,000 and 50,000 cubic yards within the above-named limits. The total amount of material washed into the Falls during any one year is, of course, very much larger than this, as it is entirely probable that twice this quantity is carried by flood-currents into the harbor and largely deposited opposite the mouth of the Falls, on what is now known as Anchorage No. 1, which has shoaled to the amount of 200,000 cubic yards in the last ten years, exclusive of redredging on the outer borders done by the Board.

Material washed into the Falls.

This stream a sewer.

This stream is virtually a sewer, and to maintain it in sanitary condition even now,

will require the expenditure annually of the interest on $1,000,000 at 3½ per cent., which must of course be largely increased as the city extends northward, as it is now doing rapidly.

Should be covered.

Every consideration of public health and economy would indicate that it should be converted into a covered sewer or tunnel, with the broad avenue above it which is so much needed from Pratt street northward.

I am well aware that to many minds the flood of 1868 precluded the idea of a closed sewer for this stream. I have carefully investigated all circumstances and measurements of that flood and believe nevertheless that a closed sewer can be shown to be practicable and safe.

Dredging.

The dredging and scraping under bridges (and for 100 feet above Fayette street) extended from the lower side of Canton-avenue bridge to about 100 feet above Fayette-street bridge, covering a length of 2,600 feet by 90 feet in width.

The depths obtained at mean low water were as follows:

Depths obtained.

Canton to Eastern avenues	14 feet.
Eastern avenue to Pratt street	13½ "
Pratt to Lombard streets	11½ "
Lombard to Baltimore streets	13½ "
Baltimore to Fayette streets	14 "

The depths obtained under bridges, where only the scraper could be used, were from 9 feet at the upper end to 12 feet at Canton avenue. As heretofore reported, the bottom under bridges is filled with stones and old piles, greatly obstructing the use of a "scraper."

Area.

The whole area worked over was 234,000 square feet, giving an average depth of dredging of 4 feet $7\frac{3}{4}$ inches.

BACK BASIN AND DOCKS.

Depths.

Throughout the Back Basin (or City Dock) all deposits were removed to a least depth of 15 feet at low water, including the docks on either side of Central pier at eastern end and channels under Drawbridge.

Area.
Excavation.

The area dredged over was 294,500 square feet; the amount of excavation was 49,771 cubic yards, and average depth of dredging 4 feet $6\frac{3}{4}$ inches.

Deposits were also removed to depths varying from 12 feet to 19 feet at mean low water from the following docks:

		sq. ft.	cub. yds.	
McClure's Dock,	over area of	7,500	420	Docks Dredged
Foot of Broadway,	" "	7,600	850	
" Lancaster street,	" "	7,370	833	
" Chester street,	" "	2,700	417	
Mouth of Harris' Creek,	" "	18,000	6,743	
Foot of Cross street,	" "	13,920	1,300	

The whole area dredged over being 57,090 square feet; the amount excavated was 10,563 cubic yards, and average depth of dredging 5 feet.

WIDENING MOUTH OF HARBOR.

Operations of 1893 left a small area of the shoal on the east side of the mouth of the main harbor, having only from 22 to 24 feet on it at mean low water, the remainder having been dredged to 27 feet at low water. This shoal portion has been removed—adding 250 feet to width of entrance to harbor for heavy draft vessels.

The area dredged was 60,000 square feet; Area.
the quantity removed was 10,770 cubic yards, Excavation.
and the average depth of dredging, 4 feet 10 Cutting.
inches.

HARBOR AND CHANNELS.

Excavations as follows were made under this sub-division:

Extent of excavations.

Widening ship channel off Locust Point, 45 feet wide, 1,560 feet long to 27 feet depth; extending 27 feet depth across lower harbor, Locust Point, to Canton, 90 feet wide, 1,340 feet long to 27 feet depth; channel to wharf at Quarantine station, 80 feet wide, 900 feet long to 15 feet depth; channel to ash dump, old Marine Hospital, 72 feet wide, 180 feet long to 12 feet depth and 40 feet wide, 125 feet long to 15 feet depth; area dredged over was

Quantity removed.

280,760 square feet; quantity removed was 60,529 cubic yards; average depth of dredging was 5 feet 10 inches.

MIDDLE BRANCH (SPRING GARDENS).

Deposits, removed.

Deposits at the head of the branch about the mouths of Chatsworth Run and Howard and Eutaw-street Sewers were removed to a least depth of 12 feet at mean low water.

A channel 75 feet wide and 14 feet deep at low water was dredged into wharf at foot of Charles street, from that natural depth in river, for use of Naval Reserve Militia.

Main channel widened.

The main channel below Light-street bridge was widened 45 feet to depth of 17 feet at low water, making the channel now 180 feet in width.

The dredging done in this section covered the areas, and with quantities removed, as follows:

About debouches of Chatsworth, Eutaw and Howard-street sewers, 175,625 square feet, 26,375 cubic yards; Charles-street wharf, 31,-125 square feet, 4,965 cubic yards; below Light-street bridge, 144,000 square feet, 23,-251 cubic yards; making area dredged over, 350,750 square feet; quantity excavated, 54,591 cubic yards; and average depth of dredging, 4 feet 2½ inches.

Total excavation.

The total quantity of material removed by the Baltimore Dredging Company under the contract (exclusive of Jones' Falls) was 186,-224 cubic yards; the area worked over was 1,043,100 square feet; the average depth of dredging was 4 feet 9½ inches.

Cost.

Expenditures for account of harbor, docks and channels were	$34,314 38
And for widening harbor mouth	3,312 27
Or in all	$37,626 65

Subdivided as follows:

Contractor, for dredging	$25,829 94
General administration, including salaries of Engineer and Clerk, and all incidental expenses	4,438 44
Supervision of dredging	1,729 28
Repair and operation of tug	4,966 17
Surveys	501 56
Printing harbor laws	115 00
Advertising	46 26
Unexpended balance	2,373 35
Amount of appropriations	$40,000 00

The average price paid contractor was $13\frac{87}{100}$ cents per cubic yard.

JONES' FALLS.

Cost of work.

Expenditures for this work were $15,000 sub-divided as follows:

Contractor, for dredging	$12,329 80
General administration, including salaries of Engineer and Clerk and incidental expenses	963 53
Supervision of dredging	685 61
Operation and repair of tug	992 75
Surveys	17 44
Advertising	10 87
Total	$15,000 00

Price paid contractor, 35c. per cubic yard.

SUNKEN VESSELS.

Wrecks removed.

During the year a barge, sunken near steamship piers at Locust Point and the wreck of a small schooner in Jones' Falls were raised

Cost.

and removed at a cost of $560, and paid out of city treasury, under Section 10, Article 22, City Code.

REPAIRS OF PUBLIC WHARVES.

Sundry repairs and cost.

Repairs without contract were made as follows:

Foot of Ann street—

Bulkhead rebuilt, 32 feet by 3 feet high, at a cost of... $ 58 11

Back Basin—

Fender cap repaired and refastened, at a cost of..... 3 00

Long Dock—

New platform built, 24 feet by 12 feet; old platform repaired, 115 feet by 12 feet; 150 cubic yards filling removed and replaced, after stopping leaks in wall; 1,362 square feet repaving done; all at a cost of..... 126 63

Bowly's Wharf—

Corner fender piles refastened; new platform built, 28 feet by 12 feet; old platform repaired, 100 feet by 12 feet, at a cost of..... 61 86

Foot of William street—

Old fender cap removed and piles sawed off (no longer useful), at a cost of..... 11 00

CHARLES STREET WHARF.

Repairs to Charles-street wharf.

In accordance with a resolution of the Mayor and City Council to provide accommodation for the Naval Reserve Militia, a portion of the old wharf at the foot of Charles street was repaired by contract.

It was proposed to cut off the old piles to obtain sound wood about 2 feet, and on this foundation to build up in the usual manner a wharf 16 feet wide on top, and the full length of the old structure (200 feet.)

After due advertisement, proposals were opened on December 6, as per following abstract:

BIDDERS.	Virginia Timber per 1,000 feet B. M. in Place.	Oak Piles Cut Off in Place.	Pine Piles Cut Off in Place.	Cutting Off Old Piles.	All iron in place.
Benjamin Glenn.....	$21 00	$ 6 00	$3 00	$0 25	$ 3¾
Andrew Brown.....	21 00	5 70	3 25	10	2½
Sanford & Brooks.....	23 95	8 95	3 60	15	2½
Pierre A. Clunet.....	33 for Ga.	12 00	.....	60	5
Beauchamp & Walker	31 50	12 00	4 50	40	5½ &10

The contract was awarded to the lowest bidder, Mr. Andrew Brown, and the work completed on December 27, at a cost of $833.11.

SEA-WALL QUARANTINE STATION.

Repairs at Quarantine station.

The rip-rap protection to the causeway at this place was injured by the storms of the spring, as well as that at the foot of the sea-wall surrounding the site.

The causeway was repaired by replacing the scattered rip-rap and by the addition of new stone to the extent of 273 perches.

The rip-rap at the foot of the sea-wall, where damaged by storm and ice, was repaired and replaced by gathering the stone from the water.

The nature of the work precluded such specifications as would enable a satisfactory contract to be made.

There was expended for stone.....	$ 366	87
And for labor.....	372	78
Making a total cost of.....	$ 739	65

Total cost.

Expenditures on account of repair of wharves aggregated.....	$1,833	36
General supervision of all wharves.	621	93
Unexpended balance.....	544	71
Amount of appropriation.....	$3,000	00

ICE-BOATS.

Ice-boat *Annapolis.*

By Act of the General Assembly of Maryland, Chap. 423 of 1894, the ice-boat *Annapolis* was transferred from the Harbor and River Relief Board to the Harbor Board of Baltimore.

This transfer was consummated on June 1, since which date the two boats, *Annapolis* and *F. C. Latrobe*, have been under the control and management of this Board.

By resolution of Mayor and City Council No. 210, of 1894, the appropriations for these boats were merged into a common fund, applicable to either vessel.

Appropriation for both boats.

The appropriations for 1894 were as follows:

For the *Latrobe*	$12,000 00
For the *Annapolis*	10,000 00
There was also received from the Harbor and River Relief Board on account of the *Annapolis*	1,713 94
Making an available total of	$23,713 94

which was about $1,000 less than was required and asked for, for the proper repair and maintenance of the *Latrobe* alone.

Expenditures.

There was expended during the year the following amounts on this account:

	Ac. Latrobe.	*Ac. Annapolis.*
Salaries and wages	$6,270 59	$2,627 00
Repairs	9,323 89	762 98
Electric light plant	1,475 84	1,497 59
Fuel	275 00	8 50
Steamboat supplies	458 96	549 06
Wharfage		385 42
Advertising	7 41	7 42
	$17,811 69	$5,837 97

Making a total for both boats of	$23,649 66
The unexpended balance was	64 28
And, as stated, the available funds were	$23,713 94

The large difference in wages paid arises from the fact that those for the *Annapolis* represent only seven (7) months' service, and that, moreover, the *Latrobe* is required to keep a crew aboard for about four (4) months

in summer to meet the requirements of the Free Summer Excursion Society, as provided by resolution of the Mayor and City Council.

The charge for wharfage on the *Annapolis* is rendered necessary by the fact that the city has not proper and sufficient wharf room for both boats, and for many reasons it was not considered advisable to "lay them up" alongside each other. The charge for this account, however, embraces some unpaid wharfage for 1892 and 1893.

Repairs needed on *Latrobe*.

The *Latrobe* is now sixteen years old, and, as stated in last year's report, the woodwork, especially the decks, guard log, rail and chocks, are in a decayed condition. The guard, or fender log, a very important part of the hull, is too rotten to hold a bolt, and may be knocked in pieces with a hammer (if not with the feet).

I have, in this connection, only to repeat my urgent recommendation of last year, that sufficient money be appropriated to make these repairs.

Repairs made to *Latrobe*.

The Government Inspector of Steam Vessels having served notice that unless the *Latrobe* was furnished new steam drums

and pipes the allowed pressure of steam would be reduced to 40 pounds, *or less*, and as with this pressure the boat would be useless as an ice-breaker, proposals were asked for the necessary repairs, and opened on June 22, as follows:

Charles Reeder & Son.....	$3,885 00
The James Clark Co.....	3,500 00

Contract for repairs.

The contract was awarded to the Clark Company (the lowest bidder), and the work has been completed satisfactorily, the boat under steam since the repairs having developed better results than when first built.

Both boats have been provided with search-lights, and electric lights in engine-room, fire-room, cabins, etc.

The electric search-light obviates some of the most serious dangers and obstructions to the convoy of vessels through ice, and the smaller lights add greatly to the safety and facility of operating the machinery and boat at night.

Condition of both boats.

Both "ice-boats" are in condition for service at any time. The *Annapolis* is in excellent condition throughout, and has needed only the usual slight repairs to paint of hull and house.

REMOVAL OF ASHES FROM TOW-BOATS.

The scow for reception of ashes from tow-boats has been maintained in good condition, and has during the year been available at all times for the reception of ashes, which have been deposited behind the sea-wall at the old Marine Hospital.

During the year there have been received 49,818 bushels, from 74 tow-boats. Ashes removed.

In order to utilize these ashes for filling in the city property at sea-wall it was found necessary to level off and spread to the rear an old accumulation of ashes and ballast at and adjacent to the place where the ashes are now deposited.

Expenditures under this head were for the year as follows: Cost.

Gen'l supervision of scow and dump.	$805 92
Discharging and wheeling ashes at sea-wall	190 00
Labor, leveling off and spreading old deposits	384 92
Repairs to scow	43 51
Miscellaneous supplies	24 01
Fuel	6 50
Making a total of	$1,454 86

Leaving an unexpended balance of $45.14; the appropriation being $1,500.

Some tow-boats not using scow.

It frequently occurs that tow-boats known to be in service in the harbor, and which do not put their ashes on the city scow, claim to be depositing them elsewhere in unobjectionable places.

As it would be impossible at any reasonable expense to determine the accuracy of these claims, and as the ash-scow with its attendant expenses was established at the request of the masters and owners of tow-boats, and as, furthermore, the scow was located for reception of ashes by these same parties, it would not seem unreasonable that the city should by ordinance prescribe a sufficient penalty to be levied on any boat that is known to be in service and that does not place its refuse on the city scow. In other words, that *all* tow-boats should be compelled to use this receptacle for ashes.

In conclusion I have to express my appreciation of the aid and co-operation received from the officers and agents of the Board in carrying out the various interests intrusted to them.

Respectfully,

N. H. HUTTON,

Engineer.

REPORT

— OF THE —

CITY OF BALTIMORE

TOPOGRAPHICAL SURVEY,

— TO THE —

MAYOR AND CITY COUNCIL OF BALTIMORE,

— FOR THE —

FISCAL YEAR ENDING DECEMBER 31, 1894

REPORT.

CITY OF BALTIMORE TOPOGRAPHICAL SURVEY.

OFFICE OF ENGINEER,

BALTIMORE, MD., December 1, 1894.

To the HON. F. C. LATROBE, *Mayor*,
HON. J. A. ROBB, *Register*,
HON. J. R. HORNER, *Comptroller*,
Commission:

GENTLEMEN:

I have the honor to submit a report of the work done to December 1, 1894, on the Topographical Survey of the city of Baltimore, under the direction of your Commission, in accordance with the ordinance approved April 26, 1893, together with a statement of the expenditures and an estimate of the cost to complete the work.

In my report of January 1, 1894, I gave a brief outline of the organization of the force employed on the survey, the division of the work under several branches, the methods adopted and the progress to the date of the report.

There has been no material change in the methods, and the work has progressed in a thorough and satisfactory manner.

THE COMPUTING AND DRAUGHTING DIVISION.

The work of this division has been under the special charge of Mr. Josiah Pierce, Jr., Principal Assistant Engineer, assisted by Messrs. C. R. Howard, C. H. Rice, J. G. Dagron and W. D. Jenkins.

The computations have been kept up with the field work, and final adjustments of all primary triangulation stations—eighteen (18) of sixty-three (63) of the secondary and eighteen (18) of the tertiary stations, and the preliminary co-ordinates of 139 secondary and tertiary stations have been completed.

In the Draughting Division, the field sheets for the topographical, property and skeleton map work have been prepared in advance of their requirements for use in the field.

The topographical field sheets, on a scale of 200 feet to one inch, embracing the entire Annex district and a considerable part of the undeveloped area of the "old city" (about 13,000 acres in all), have been prepared in the office, and, when the field work had been done, have been inked in and made complete. The field sheets, on a scale of 100 feet to one inch, for the map of General reference, or Skeleton map of the city, have been prepared in the office and inked in and made complete as fast as they were returned by the

field parties, and a considerable part of the field work of the Property Division has been re-plotted on a scale of 40 feet to one inch, and gotten ready for publication.

The work from the field sheets of the Topographical Division has been transferred to fifteen of the square mile topographical sheets for publication, and have been finished in the office. These maps are very complete. They show contours at vertical intervals of five feet, with their elevations referred to mean low tide at Baltimore, all wooded and cultivated areas, all streams, bridges, culverts, existing roads, streets, railroads, buildings, and such boundaries between properties as are shown by physical objects, such as fences, hedges, stones, walls, etc., and as far as practicable the owners' names of properties. There remains to be completed in the office twelve of these square mile sheets.

Maps, on a scale of two hundred feet to one inch, of the "Annex," between the east and west boundary lines of the city, north of North avenue, have been prepared in six sheets, for the study of street lines and grades in this district. These sheets show contours at five feet vertical intervals; all existing roads, railroads, streets and alleys, streams, bridges, culverts, buildings, fences, walls, hedges, etc. Upon these sheets, as far as completed, have been projected, in dotted lines, the street lines in this district of the Annex for the consideration of the Mayor and City Council. Similar maps of the part of the Annex west of Payson street and south of North avenue are being prepared for the same purpose.

The map for General reference, or Skeleton map of the entire city, on a scale of five hundred feet to one inch, is being prepared as rapidly as practicable. The field work for this map in the Annex, and in the "old city" from North avenue to the Harbor, and from Charles street to the east boundary line, and a considerable part of the office work required has been completed.

This map will show contours at five feet vertical intervals: all existing streets, alleys and lanes, with their names; all roads, railroads, streams, reservoirs, lakes, sewers, culverts and bridges; parks, with their walks and drives; docks and piers; cemeteries and all public buildings, accurately laid down, and will serve as a valuable map for general reference.

There have also been prepared in the office maps of reference showing the location of all triangulation, traverse and stadia stations, and of all precise level bench marks located and occupied, and the field and finished sheets of the topographical and property divisions have been photographed for use in transferring, etc.

The work of the Draughting Division has been kept as nearly as practicable in line with the field work. The completed work is of the highest order, and will compare favorably with any work of a similar class.

TRIANGULATION DIVISION.

The primary work of this division is complete. There remains to be done a small amount of secondary

triangulation for the control of the topographical, skeleton, and property work yet to be done.

The work embraced by the primary triangulations covers $54\frac{7}{16}$ square miles or 35,018 acres. The blue print attached marked "Triangulation for Control," illustrates the work done, and the location of stations, etc. The location of the primary stations were made after careful study and afford favorable conditions for final adjustment.

It became necessary to test the length of the Fort-avenue Base Line of the Harbor Board Survey, and to determine the length of a new base line—Highland—established by this survey. The methods used and results are shown in special reports of Assistant Engineer G. P. Wood attached, and show a high order of precision.

Observation towers varying from one hundred and twenty-three feet in height at Arlington to eight feet at Rasin were erected at Arlington, Druid Hill, Lazaretto, Patapsco, Rasin and Relay. For the other stations natural objects were used.

PRECISE TRAVERSE WORK.

This work has been done under the direction of the Assistant Engineer in charge of the Triangulation Division.

There have been located 2,747 permanent and 993 temporary stations, or 3,740 stations in all, not includ-

ing the Stadia stations. The diagram (blue print) attached, marked "Index to Traverse and Stadia Stations," illustrates the area embraced by this work, with the location of the stations.

The work of this class remaining to be done is in the "old city," and is bounded by Fulton avenue on the west, Gwynn's Falls, the Middle Branch and the Patapsco river on the south, Light street on the east, and Pennsylvania avenue on the north (see diagram), covering about five square miles.

Monuments, either of stone, iron pipe or copper bolts set in permanent objects, have been located and referenced at all permanent triangulation and traverse stations, and their positions carefully computed and recorded.

The north, west and east boundary lines of the city have been permanently located, and stone monuments erected at the northwest, northeast and southwest corners of the city boundaries, monuments have also been located at short interval along the west, north and east boundary lines.

PRECISE LEVEL DIVISION.

The work of this division has been extended over the entire city, and is, for all practical purposes, complete. The diagram attached, marked "Diagram Showing Location of Bench Marks of Precise Levels," illustrates the area covered by this work. It embraces $29\frac{54}{100}$ square miles, with 606 bench marks and $281\frac{94}{100}$

miles traversed. In addition, 1,964 bench marks from Y levels have been established over $26\frac{7}{10}$ square miles, and the elevation taken at every street intersection in the "built-up" sections of the city, making a total of 2,570 bench marks, to which the elevations of the contours of the topographical maps have been referred.

The results of this work, as to precision and cost, compare favorably with any known work of the same class.

TOPOGRAPHICAL DIVISION.

The field work of the Topographical Division has been completed in the Annex.

This work was begun in the eastern section, and extended regularly westwardly to the west boundary, and thence south (west of the old boundary line of the city) to the south boundary line. The area covered embraces about 11,200 acres. The work has been extended about 200 feet beyond the boundary lines. The topographical field work has also been completed over a small area south of North avenue, between Guilford avenue and Fulton avenue, covering about one square mile, and has been nearly completed over the eastern section of the city, between North avenue, the Harbor, the east boundary line and Chester street, covering about 1,070 acres.

There remains to be done the field work in the undeveloped section of the old city on Locust Point, from Fort McHenry to Light street, and in the southwest section, over about two square miles.

I attach blue prints on reduced scales, illustrating the field sheets and the square mile office sheets of the Topographical Division. I also attach a proof sheet reproduced by the photolithographic process of square mile sheet 3 N., 3 W.

The work on these sheets will be found to be complete. All cultivated and wooded areas, contours at five feet vertical interval, buildings, streams, fences, walls, hedges, existing roads, both private and public, streets, lanes and alleys, railroads, the physical division lines between properties as they exist, parks, and, as far as practicable, the owners' names of properties are shown.

The square mile topographical sheets are being published by Messrs. Hoen & Co., under a contract made with them by direction of the Commission. The city will be furnished with 5,000 copies of each square mile sheet, corresponding to the original sheet. They are of convenient size for general use ($27\frac{1}{2}$x$27\frac{1}{2}$ inches). It is proposed that the city supply these sheets to those desiring them at fifty cents each, the same price which the Government receives for similar sheets of the Coast and Geodetic Survey. The low price puts them within the reach of all persons, and the city will be reimbursed for the publication.

I had occasion a short time since to send to Mr. Samuel M. Gray, of Providence, R. I., a distinguished Engineer, who is one of the Consulting Engineers of the Sewerage Commission of the City of Baltimore, some photographic copies of the topographical field

sheets of this survey, to be used by him in determining the drainage areas in the Annex. I attach a copy of his letter of December 8, 1894, acknowledging the receipt of these sheets, with his comments upon the character of the work. I am sure it will be gratifying to you as it is to me to receive such unqualified approval from so distinguished a source.

SAMUEL M. GRAY, CONSULTING ENGINEER,
PROVIDENCE, R. I.

PROVIDENCE, December 8, 1894.

COL. H. T. DOUGLAS,
Chief Engineer, Topographical Survey,
Baltimore, Md.:

DEAR SIR:

Your letter of the 6th, together with topographical sheets, is at hand, for which please accept my thanks.

I think they are the finest specimens of work that I have ever seen.

Yours truly,

Signed: SAMUEL M. GRAY.

PROPERTY DIVISION.

Whilst a considerable amount of the work of this division has been done, there remains a large amount to be done to carry out the provisions of the ordi-

nance providing for the Geodetic and Topographical survey of the city of Baltimore.

It is only necessary to call attention to the very large number of blocks, lots and buildings in the old city, as well as in parts of the Annex, which have been built up, with their irregular shapes and boundaries, besides the boundary lines of tracts of undivided properties in the Annex, many not clearly defined, to evidence the great detail required to comply with Section 2 of the ordinance.

When completed it will be of great value, but to fulfill the conditions required, this work must be so accurate and complete as to leave nothing to be done in the future, save to examine the records, to determine the location, areas and condition of all properties within the limits of the city. The immense detail required renders the process necessarily slow and time to perfect it.

In order that this record may be continued complete, owners of properties when sub-dividing the same, or in disposing of it, should be required to file with the official of the city government in charge of the records, a plot showing the proposed division, with the name of the purchaser, which should be entered upon the city map and record, the owner to receive from the city official a certificate of such record.

By the adoption of such a measure a perfect and complete record of every property in the city may be continued. The great value to the Tax Department alone of such a record is apparent.

The prcperty maps are being prepared on a scale of forty feet to one inch for all of the built-up sections of the city.

The block numbers of such maps will correspond to those of the tax record maps now used by the city government. They will show the ground plan of every building and lot, with every dimension in careful detail; the material of which the building is constructed; the purposes for which it is used; the condition at the date of this survey; the owner; the official city number; the street or alley upon which it fronts; the location of sewers; the water mains; fire plugs, and railroads; the widths of streets and alleys, with their names or numbers, and the character of paving at the date of this survey.

I attach specimens of the field and finished sheets on reduced scales, to illustrate the character of this work.

The plan of recording the owners' names has been changed, so that it will differ from the illustration as shown on the "finished sheet," as follows:

Instead of writing the owner's name on the property there will be attached to each sheet an index giving the owners' names of the houses or lots by numbers, so that when properties are sold it will be only necessary to change the names of the owner on the index and not deface the maps by attempts to change the names on the map.

The total area of the Annex district has been computed and found to contain 10,874 acres, or very nearly 17 square miles. The area of the old city within the limits of Poppleton's map has been assumed and defined as 10,000 acres, more or less. This agrees very closely with our measurements, making the total area of the city, including the water areas, $32\frac{21}{100}$ square miles, and exclusive of the water areas $29\frac{54}{100}$ square miles.

In the Annex district there will be approximately 311 miles of streets.

The supervision of the work of the survey has been generally under the direction of Mr. Josiah Pierce, Jr., Principal Assistant Engineer. The office work has, however, received his special attention, whilst the field work has been for:

The triangulation, traverse and property work under the charge of Mr. G. P. Wood, Assistant Engineer; the topographical work under Mr. O. W. Connet, Assistant Engineer; the precise level work under Mr. J. A. Paige, Assistant Engineer; the draughting work has been under the special charge of Mr. W. D. Jenkins, Assistant Engineer, with Messrs. Wansleben, Ward, Watkins and Exall as principal draughtsmen.

I beg to submit herewith detailed reports of the work of the survey from Messrs. Pierce, Wood, Connet and Paige. These reports have been prepared with great care. They show the methods used and the results obtained; are thorough and interesting, and I respectfully request that they be published with my report as forming a part of the records of the Topographical Survey.

RECEIPTS AND EXPENDITURES.

There was appropriated for the survey		$125,000 00
Received from other sources		87 80
Total sum available		$125,087 80
There has been expended—		
For instruments, tools, stakes, iron pipe, copper bolts, etc., for permanent stations, repairs, etc	$ 5,971 22	
For stationery, drawing paper, inks, instruments, blue print apparatus, books, etc	1,734 16	
For office rent	2,548 50	
For office furniture, drawing tables, etc	403 03	
Incidental expenses	367 68	
Boundary lines of the city, including cost of stone monuments, corner-stone set in concrete, and the aid of county surveyors in establishing the lines	975 70	
For expenses in establishing the Mt. Royal base line as a standard of length	31 45	
Transportation of field parties, including cost of horse and wagon and livery	2,838 90	
For observation towers	2,310 58	
" miscellaneous hauling	49 40	
" repairs to wagon	10 00	
" salary of Secretary of Commission	760 00	
Amounts carried forward	$18,000 62	$125,087 80

Amounts brought forward	$18,000 62	$125,087 80
For stationery for Secretary of Commission	15 10	
For publication by the Mayor of notices with regard to street lines in the Annex	98 75	
For pay rolls	83,426 25	
Total expenditure to December 1, 1894		101,540 72
Balance on hand December 1, 1894		$ 23,547 08

To complete the work, I respectfully submit the following estimate:

To complete the topographical work (both office and field)	$ 6,649 16
For publishing the square mile sheets of the topographical maps of the Annex	6,750 00
For supplying corner-stones and setting the same at the principal street corners of the Annex	6,040 00
For the completion of the field and office work for the general map of the city on a scale of 500 feet to one inch	16,852 86
For the property maps of the entire city on a scale of 40 feet to one inch	45,177 00
Total	$81,469 02
Add for contingencies	4,073 45
Grand total	$85,542 47
Less amount on hand December 1, 1894	23,547 08
Sum required to complete the survey, records and maps	$61,995 39

As shown by this estimate, about 75 per cent. is required for the property survey. This work can be done in the field to best advantage during eight months of the year. It is not desirable to have too large a force in the field at one time. I, therefore, think that the work will be done more thoroughly and economically to extend it over the years 1895 and 1896, making an appropriation of $31,000 for each of these years, which I respectfully recommend.

The work has been done with the utmost care. It furnishes standards to which all future surveys may be referred, and affords the means for the adjustment of property lines upon a fixed basis, eliminating the varying and uncertain elements of ordinary surveys. It affords the means for an intelligent study of the grades, drainage and sewerage of the city, for the location of water and gas mains and the development of walks and drives in the public parks upon graceful and economic lines.

For the Tax Department it will furnish an accurate plan of every piece of property in the city, with its dimensions and the character and condition of improvements.

The results in precision, completeness and cost will compare favorably with similar work done elsewhere.

I am indebted to my corps of assistants for an intelligent and faithful performance of their duties, and for their earnest aid and co-operation, and to the Commis-

sion for their unvarying kindness and support in the accomplishment of the task entrusted to my charge.

The work in all of its branches is far on the road to completion. When finished the city of Baltimore will have records unequaled in value and perfection by any other city in this country, and of which they may be justly proud.

Respectfully submitted,

H. T. DOUGLAS,

Chief Engineer.

REPORT

Upon the Object and Development of the Methods and Processes of the Topographical Survey of the City of Baltimore

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Col. H. T. Douglas, *Chief Engineer:*

Dear Sir

In accordance with your instructions, I beg to submit a report of the methods and results of the work done on the Topographical Survey of the City of Baltimore to December 1, 1894, together with comparisons of similar work done elsewhere.

1. Organization.

The work, in accordance with regulations adopted by yourself, has been divided into:

1st. The Computing and Draughting Division.

2d. The Triangulation Division.
3d. The Precise Level Division.
4th. The Topographical Division.
5th. The Property Division.

2. Objects of Survey.

The principal objects for which the survey was organized are the following:

1st. The establishment of permanent bench marks and points of reference to which all future surveys could with accuracy be referred.

2d. The completion of a general topographic map of the entire city, including the Belt area, upon which to base the studies of the drainage and sewerage systems for the city, the street grades, and other municipal and engineering problems.

3d. The completion of accurate and detailed maps of all public and private properties within the city limits for the uses of the Tax Department, City Commissioner's Department and other departments of the city government, and for the study of engineering problems in detail.

METHODS AND PROCESSES ADOPTED FOR THE CONTROL OF SURVEYS IN DETAIL.

3. Beginning.

The work of the Topographical Survey began with a small force in May, 1893, when a preliminary study of existing information was made and the details of its organization and methods were carefully considered.

It is a matter of congratulation that but little departure has been found necessary in the broad general plans for carrying on the work as first laid out, and that a marked and steady improvement is visible in every branch of the field and office work. The results so far accomplished will bear critical comparison with the best work done elsewhere, and will fully meet the requirements for which the survey was organized.

4. Previous Records.

The important fact must also be noticed that there existed no previous records or private surveys in the city of Baltimore of sufficient accuracy to be of value in any of the many branches of the work of the Topographical Survey, such as records of its street extensions and public improvements, establishment of building lines and bench marks, or maps from compilation of records, which could be relied upon for the names, directions and widths of streets, and to define the areas already built upon.

It was necessary to start *de novo* from a single line of the triangulation of the United States Coast and Geodetic Survey Triangulation, and to accept its direction as determined, and its length, as corrected by the Harbor Board Survey of the Port Warden lines in 1886, as final. It has since been found that the determination of the length of this base was not sufficiently accurate, and steps have been taken to correct the error in this, the only line in the entire city which had been accepted as a standard of length.

The establishment of bench marks by lines of precise level throughout the city has proceeded independently of previous measurements by the acceptance of the elevation of one of the bench marks of the Harbor Board Survey.

5. Information accepted.

Hence the sum total of all information from previous surveys accepted by the Topographical Survey in aiding its work has been:

1st. The azimuth or direction of the straight line between the centre of head of the statue upon Washington Monument and the centre of vane of the cupola of Bay View Asylum.

2d. The length of this line as established by the Harbor Board Survey in 1886.

3d. The elevation of Stone "B" of the Harbor Board Survey above mean tide at Baltimore.

In the acceptance of this information out of the large amount of work done in and about Baltimore by the United States Coast and Geodetic Survey and by private and city surveyors, due consideration should be given to the fact that the work of the Topographical Survey was designed to supersede past records, and to furnish the data for all municipal improvements.

6. Necessity of a Base Line.

It was necessary at its organization either to establish a correct base or to accept one of many lines established by the triangulation of the United States Coast and Geodetic Survey.

The measurement of a base line of sufficient accuracy and the recovery of the old primary

stations of 1844 both were operations involving much time and expense, and the line between the Washington Monument and Bay View was at first accepted, as it had been corrected and used by Assistant Tittman, of the United States Coast and Geodetic Survey. The necessity for again remeasuring more accurately the length of this line arose, and has been accomplished, to complete the final adjustment of many miles of traverse lines, and to reduce the final accepted positions of thousands of permanent points of reference.

Had the work of the Topographical Survey been confined solely to mapping, this operation would have been unnecessary; but one of the most important branches of its work is the establishment of permanent points of reference, from which all future surveys can be adjusted with a known degree of accuracy, and by means of which the records of public and private properties can be corrected.

7. Poppleton's Map.

Prior to the organization of the Topographical Survey the ordinances for the extension of streets and for the establishment of building lines were based upon surveys made under the Commission of the General Assembly of February, 1818, by J. H. Poppleton. The records of this survey exist in the original map, on file in the library of the City Hall, and certified copies

of the same, showing the widths of projected streets, the dimensions of blocks and the positions of the stones set at the street corners upon building lines. At the period at which these surveys were made the methods of refinement or accuracy in surveying now used had not been adopted, and no steps have since been taken to test the accuracy of the positions of the street stones as originally established nor to preserve them from disturbance. These stones were set at the building line corners, and have in consequence been displaced by buildings and grading to such an extent that at this date no rigid test can be made of the accuracy of the original Poppleton Survey.

The most valuable records of what has been done in the past probably exist in the possession of private surveyors, but the accumulated evidence of the present conditions of property boundaries and landmarks will be accurately shown by the property work of the Topographical Survey, which is based on no previous records, but which will give with the greatest degree of precision the exact relative positions of all existing street and property lines, and upon which an equitable adjustment of conflicting deeds and records can be based.

8. Boundaries and Building Lines.

A just appreciation and understanding of the work of the Topographical Survey in

regard to property boundaries and building lines is of the highest public importance. The distinction must be made between the problem of the establishment of building lines from fixed landmarks and the attempt that is being made to locate exactly all existing landmarks in their correct relative positions.

The general confusion and irregularities which exist in recorded deeds of property can be directly traced to erroneous methods of surveying and descriptions of land that have been in vogue since the seventeenth century, and the evidence of the condition in which both public and private records must be in the city of Baltimore is shown by the fact that no existing map of the city has yet been compiled from the existing records with errors of less than five hundred feet at the boundaries, and by the deflections which are clearly visible in streets which are recorded as straight.

9. Errors of Compass Surveys.

The fact exists that errors of ordinary chain and compass surveying, upon which the public records are based, may amount to 10 per cent. of the areas surveyed, from careless methods of field work, from the ordinary unobserved errors of surveying, and by the use of erroneous standards of length, and yet there exists the possibility in all processess of surveying of placing an exact limit upon

the allowable errors in the work, based upon strict geometrical laws and upon the mathematical theory of probability.

10. Standard Units of Measurement

It is a remarkable fact that while correct units of weight, length and volume are adopted for the sale of merchandise, no laws have as yet been passed to apply the same rigid standards of measurement to land.

The distinction which it is desired to emphasize between the methods and processes of the Topographical Survey and the commonly accepted notions of property surveys, is that no operation is performed by the Topographical Survey and no measurement is taken without a rigid proof of its accuracy within established limits. These results are attained by applying the following principles:

11. Errors and Precision.

It is a recognized fact that all measurements are subject to error, and that by the combination of repeated measurements results may be obtained more and more nearly correct. The small differences which exist between repeated measurements of the same thing, furnish a means of determining the degree of accuracy of the result. The probable error may further be reduced without the necessity of many repetitions by the adoption of methods of refinement in measuring and by taking into account the geometrical laws under which measurements in many

directions may be combined. Hence there exist processes and laws by which the degree of refinement of methods of measurement may be brought to any desired limit.

12. Economic Limits.

It is, however, necessary to consider the object and economy of the work, and the limits of precision have to be adopted in advance of actual field work in all its branches, based upon these two important factors.

13. Precision adopted.

In view of the fact that the necessity existed of furnishing the means for correcting all previous land records in the city of Baltimore, and of establishing correct points of reference for all future surveys, a far higher order of precision was adopted in the main branches of the work than would have been necessary had the work been confined to mapping, and it was decided that the accumulated errors of measurement in the most remote quarters of the city should not exceed a few tenths of a foot in the position of any established point, whereas the accumulated errors of previous records have no limit and exceed several hundred feet.

14. Measurements of Positions.

In all operations of surveying the relative positions of points may be determined either by direct linear measurements or, far more precisely and economically, by combined methods of triangulation and linear measurements. As in the former, no matter how

slight may be the errors, either in the standards used or in the operations by which the measurements are made and combined, the errors will constantly tend to accumulate unless controlled within reasonable limits by operations of a higher order of precision.

15. First Principles. Hence the necessity: 1st, Of determining by primary triangulation the positions of a limited number of points at great distances apart with the highest degree of accuracy required; 2nd Of distributing by less expensive secondary triangulation a greater number of well-established points depending upon the primary for their accuracy of position; 3rd, Of determining from these by comparatively inexpensive processes very many positions from which by ordinary methods of surveying, all details can be located.

METHODS ADOPTED.

16. Accepted Base Line. To attain the required degree of precision of the work in all its details, it was first necessary to obtain the length expressed in United States Standard units of a suitable base line with a degree of precision far in excess of the precision of any of the work depending upon it, and the line between the centre of head of the statue upon the Washington Monument and the centre of vane of the cupola of Bay View Asylum, or, more briefly, the line Monument–Bay View was selected for the reasons given.

From the ends of this line as a base the angles were measured to points chosen in the primary triangulation by repeated measurements with the best instruments and by different observers, and the process was repeated from all of the stations until the primary system of well-grouped triangles and quadrilaterals was completed. 17. Primary Triangulation.

In the methods of observation the angles are measured singly and in pairs until the whole horizon has been closed by single and double angles at each station. Each angle is measured directly from right to left and reversely to eliminate instrumental errors, and the mean of forty such repetitions is taken as the observed value of the angle. 18. Methods of Observation.

These methods of observation introduce certain geometrical conditions which require to be fulfilled, namely, that each double angle should be the sum of two single angles, and that the sum of the angles around the horizon should equal 360°. The fulfillment of these conditions produces an adjusted set of angles for computation at each station. 19. Conditions for Adjustments.

In many cases it is impossible to occupy with the instrument the exact point sighted at from other stations. In such cases eccentric positions are occupied, as in the case of the Washington Monument, and it is then necessary to apply further corrections to the 20. Eccentric Stations.

observed angles which will give their values at the centre.

The station adjustments and reductions to centre having been made, there remain other conditions which require to be fulfilled in the figures themselves, as in the simple case of the three angles of a triangle being equal to two right angles, which represents but one condition.

21. Figure Adjustments.

In all other figures of more than three points the conditions required in order to obtain the best results from the observations taken increase rapidly with the number of points and become very complex, as in the particular case of the observations taken from nine stations to determine the length of the line, Monument–Bay View, from two measured bases, twenty-six conditional equations being required to be solved to obtain the most probable corrections to apply to the observed angles from which the computations of the sides of the triangles would be made. Both in the primary triangulation system as a whole, and in this particular problem, it was not found to be necessary to apply rigid adjustments to any figures containing more than four points or quadrilaterals, as the observed angles fulfilled so nearly all the conditions required, and this is best shown by the agreement of the computed lengths and positions of any line through different groups of triangles.

22. Precision of Primary Triangulation.

After the figure adjustment of the quadrilaterals about the monument had been made the errors left unbalanced were but 1.05 seconds from the primary group and 0.92 seconds from the sub-primary group, errors which for all practical purposes are infinitesimal, since one second of arc subtends but $\frac{1}{40}$ of a foot, or about $\frac{3}{10}$ of one inch, in the distance of one mile. The actual test of the accuracy of the primary system is shown in the comparison of the lengths of the line between the triangulation stations "Monument" and "De Sales," as computed through two systems of quadrilaterals. The average length of this line is 30,408.7 feet, or about $5\frac{3}{4}$ miles, from which three of the computed lengths differ by less than $\frac{1}{10}$ of a foot. The probable error of the mean being .03 foot, or one part in one million.

The correction made in the length of the original base, Monument–Bay View, does not disturb the relative positions of the thirteen primary points, but only alters their distances apart proportionally.

23. Secondary Triangulation.

The secondary triangulation includes the stations located from the primary stations, at distances apart about $\frac{3}{4}$ of a mile by precisely similar methods of field work of a lower order of precision, the computed lengths of both systems depending upon the

length of the original base, Monument–Bay View, and upon the accuracy of the angle work.

24. Precision and use of Triangulation.

The latter is, however, of such a high order of precision that, in comparison with any system of direct linear measurements upon the ground, the errors due to triangulation can be neglected, and the computed lengths between triangulation stations become absolute standards, not only for testing the accuracy of all measured lines, but they furnish the means of their adjustment, and, the positions of the triangulation stations being accepted as rigidly determined, they are accurately connected with the linear or traverse surveys and prevent accumulative errors of measurement.

25. Economic limits.

Having briefly outlined the general methods and objects of triangulation and the means taken to insure its accuracy, the question of economy again comes in to limit the extent to which it can be carried. In the city of Baltimore, and especially in the annexed Belt area, triangulation is especially expensive from the fact that the views are obstructed by foliage and smoke. It was necessary to erect four high observation towers for principal stations—at Arlington, Lazeretto, Montebello and Druid Hill—to obtain a clear and unobstructed view of long lines and to make reciprocal obser-

vations. In the built-up sections of the city triangulation has to be carried out over housetops, and the work is complicated by the necessity of transferring the points to the ground and by the introduction of eccentric stations to clear obstructions.

26. Tertiary System.

To provide for the complete control of surveys in detail, the area of the city has been further sub-divided into comparatively small areas by lines of precise traverses—a branch of work which is carried out by parties of the Triangulation Division.

27. Bearings and Azimuths

Before entering into the details of this important branch of work, it is necessary to describe the means by which the bearings or azimuths of lines are established as a part of the angle work of the Topographical Survey. It has already been stated that by means of triangulation a number of points are established whose relative positions are determined by angle measurements, the distances apart of these points from each other being computed trigonometrically from the lengths of the single measured line in the system or base.

As the points selected for trigonometrical stations are fixed and immovable objects, there exists a rigid relation between the angles of the system which establishes the bearings or direction of every line in the

group when the bearing of only one line is known.

38. Azimuth of Base. The angle which the base (Monument to Bay View) makes with the meridian, or true north and south line, at the Monument, as established by the United States Coast and Geodetic Survey, has been accepted as defining the direction upon the earth's surface of the base (Monument–Bay View), and is recorded as the azimuth or angle measured from a point due south of the Monument along the horizon from the left to the right to Bay View. Hence, by means of the fixed angles of the triangulation, and their relations with each other, the directions or azimuths of every line in the primary and secondary triangulation have been established with reference to the Monument meridian.

29. Monument Meridian. The importance of the Washington Monument as a central point in the primary triangulation led to its adoption as the centre or origin, and of its meridian, as a standard direction to which the positions of all established points could be referred by their distances north or south of the centre of head of the statue upon the Washington Monument and their distances east or west of the Monument meridian.

30. Co-ordinates of points. Each established point has, therefore, two co-ordinate distances at right angles to each

other, which are computed from its known distance and direction from the Monument, or from its distance and direction from some other fixed point whose co-ordinates are known, and by a reciprocal process of calculation the azimuth and distance between any two points whose co-ordinates are known can be computed. There exists, therefore, a very important relation between all the established points of reference of the Topographical Survey that it is possible to compute the distances and bearings of any one point from all the others, and this relation provides the means of detecting the presence and location of errors in field work, and of their limitation to a fixed standard.

31. Errors of Position.

It has been the aim of all branches of the work to make these limits such that the position error of any point, no matter how established, shall not exceed one or at most two-tenths of a foot. In other words, that by rigid analysis it can be demonstrated that the probable errors in the co-ordinates of points shall not exceed these limits. It has been necessary in order to attain this end to establish different orders of precision or degrees of accuracy for the several branches of work, the highest being required in the base line and triangulation work, and the lowest in topography and mapping.

By means of the system of co-ordinates the azimuths or bearings of all measured

lines are referred absolutely to one fixed meridian passing through the Washington Monument, which becomes the central or standard meridian for the city of Baltimore.

32. North and South lines. The recorded or computed azimuths or bearings between the established points of reference furnish the means of establishing parallels to the Monument meridian in all parts of the city, or true north and south lines, whenever two established points are visible from each other, and by this system all local surveys of property can be correctly made, within known limits of accuracy, and the exact position of every point located can be described with reference to any other established point in the city.

33. Bearings in deeds. The difficulty which exists in examining and comparing old deeds of property and surveys based upon the compass and chain is greatly increased by the lack of evidence of the value or degree of accuracy of the description given by metes and bounds.

34. Compass bearings. In the surveys made by Poppleton, and at that early period in Baltimore, there is much evidence to show that the compass meridian was used in surveying, and that no notice was taken of the annual variation of the compass in the continuation of Poppleton's plan for the extension of streets for many years, as is shown by the gradual westerly

curvature of the streets as they extend from the heart of the city.

In addition to the variation from the true meridian of the compass it is subject to local deflections of several degrees in crossing hills and from many causes which would ordinarily be unobserved. No information exists in the city records of the standards of length used in surveying, and from these and other causes it can be clearly seen why no map can be compiled with accuracy from past records of compass and chain surveys when there are many causes for inaccuracy in details and no limit to the possible accumulative errors of compilation. 35. Deflections

These facts are referred to mainly to show the importance of the adoption of the Monument meridian as a standard meridian for the city of Baltimore, leaving no doubt as to the meaning of a bearing or azimuth, to emphasize the value of uniform standards of length in all parts of the city, and to especially call attention to the importance of preserving from destruction the points of reference established by triangulation and traverses. 36. Importance of Standard Meridian.

TRAVERSE SYSTEM.

The details of the establishment of fixed points by traverses can now be more clearly explained, the object of traverse work being to sub-divide the areas between secondary 37. Traverse System.

triangulation points into smaller tracts for the control of surveys in detail, by a tertiary system of points established by both angle and linear measurements.

38. Traverse Stations. The points selected for traverse stations are first of all located upon the shortest and easiest lines of measurement between triangulation stations, and are also placed in locations most favorable for the continuation of secondary lines in other directions. At such points a stake formed of a piece of one-inch gas pipe, thirty inches long, is driven into the ground flush with the surface, the central point of the station being marked by a raised cross upon an iron cap tightly screwed on the pipe; the letters "T. S." upon the cap signifying "Topographical Survey."

39. References and numbers The points thus marked are connected by measurements to permanent objects for future reference and are numbered in the order of their establishment, while the triangulation stations for distinction have been given names connected with their locality, and have in general been marked by a cross cut on a copper bolt in a stone sunk two and a-half feet below the level of the ground, unless established upon buildings or towers.

40. Regulations The rules adopted are that each traverse station must be visible from at least two other stations, between which direct meas-

urements are made, and that the areas between main lines of traverse are required to be sub-divided into polygons not exceeding 7,500 feet in perimeter. There are thus established in the Annex or unbuilt-up sections from forty to fifty permanent points per square mile, and in the built up sections of the city an average of three hundred points, controlled by 90,000 feet of accurately measured lines per square mile, the positions of which have been accurately determined upon which to base the topographic and property details.

The methods adopted for traverse work are the following:

41. Traverse Angles.

The angles are measured by repetition at each traverse point and at the connections with triangulation stations, the mean of three readings "direct" and "reverse" of each angle being taken with instruments graduated to twenty seconds, the allowable error of closure at each point being fifteen seconds.

42. Distance Measurements.

The distances apart of traverse stations are measured with steel tapes by methods capable of giving very precise results. Every tape used upon the Topographical Survey is numbered when purchased, and is frequently tested to obtain the errors which may exist in its graduations by comparison with a

standard obtained from the United States Coast and Geodetic Survey, under conditions that will establish its absolute length under a definite tension and at a given temperature. The conditions of the support of the tape are taken into account and measurements are made upon the surface or natural slopes in direct straight lines between traverse stations.

43. Reduction of Measurements,

Before these measurements can be used or adjusted, it is necessary to reduce the slope lengths to horizontal distances, and to apply the corrections for temperature and tape length which are required to reduce all measurements to a uniform standard.

Each main line of traverse between triangulation stations is made up of a series of about ten such lines, averaging about five hundred feet in length, and at each traverse station the azimuth or bearings of the line are determined by the angle measurements taken.

44. Methods of Computing.

As a preliminary operation in the Computing Division the co-ordinates of all the stations of the traverse lines are computed by the methods of latitudes and departures, beginning at one established point and ending at another whose co-ordinates are known.

45. Errors of Closure.

The discrepancy or error of closure which may be found between the co-ordinates of the last point determined through the traverse lines, when compared with the trigonometric co-ordinates, indicates the degree of accuracy with which the work has been done, and this is limited by the regulations of the survey not to exceed one part in 15,000 of the measured length of the traverse, to include all the combined errors of linear and angle measurement.

46. Duplicate Measurements.

The main lines of traverses between triangulation stations are required to be measured in opposite directions to introduce different conditions of measurement in every detail, the mean of the two measurements being accepted for adjustment when the parts do not differ from each other by one part in 7,500.

47. Final Co-ordinates.

The final adjusted co-ordinates of traverse points are obtained after a distribution of the small errors of closure are made, and give the means of determining the final accepted lengths and azimuths between all traverse stations.

48. Secondary Traverses.

Between main lines of traverse, secondary points are established, either by a continuation of precisely the same methods of field work or by triangulation from the measured bases of the traverse system, and the final

adjustments of these lines are not made unless the requirements of precision are fulfilled.

The methods of computing disclose promptly the presence of mistakes of measurement and of errors exceeding the required limits, as not only are the traverses computed in lines between well-established points, but in groups of closed figures or polygons. These methods which have been indicated are clearly applicable, and can be applied to all surveys of property, especially in cities where land is valuable.

49. Value of Traverse points. In the establishment by triangulation and traverse of many thousands of points for the control of the surveys of all kinds within the limits of the city of Baltimore, the Topographical Survey has anticipated the requirements of future work by the adoption of standards of measurement of a very high order of precision in these two important branches of the work of the Triangulation Division.

50. Records of Measurements. The records of the Topographical Survey will contain the descriptions, elevations and co-ordinates of all points of reference, their distances apart, and the azimuths or directions of all lines of measurement referred to the standard Monument meridian. Further than this the records will be complete re-

garding every detail entering into the establishment of these points, and will give correct date for their re-establishment when destroyed.

Methods adopted to secure precision in the adjustment of traverse lines:

51. Standards of Precision.

The standard of precision adopted in the triangulation and traverse work are difficult of attainment. Comparison is made between the positions of points as computed through the triangulation and the positions of the same points computed through a series of linear measurements upon the ground. In order that the one may be used to check the accuracy of the other, it is necessary to have proofs that the triangulation work is of so much higher an order of precision than that of the traverse work, that its errors may be disregarded in the comparisons.

52. Primary Triangulation.

It has already been shown that the primary triangulation system closed with remarkable precision, and that the probable errors of the primary stations do not exceed one in 1,000,000 from the evidence of the angle work done—or about the fifteenth part of an inch in one mile. The stations of the primary work are fully twice as far apart on an average as the longest lines of direct measurement allowed, and are, therefore, not available for the direct adjustment of tra-

verse lines; the burden of the adjustment, in consequence, falls upon the secondary triangulation, whose stations are located about three-fourths of a mile apart.

53. Secondary Triangulation.

The methods of observation and reduction of the results of the secondary triangulation are the same as those described for the primary work, except that the observed angles of the secondary work are taken as the mean of four groups of five repetitions direct and reverse, or of twenty repetitions instead of forty. The points are connected and observed, as a rule, in quadrilaterals, and are so frequently connected with each other and with the primary stations that the probable errors of these positions may well be said to be negligable in comparison with those of any system of linear measurements, and would suffice without the primary work for the adjustment of the latter.

54 Required Precision of the Base.

If the triangulation, as a whole, is regarded as a rigidly connected system of points, it will be seen that the trigonometric lengths and positions all depend for their precision upon the accuracy of the length of the adopted base, (Monument–Bay View), and that whatever error exists in the length of that line will be carried forward proportionally in the processes of computing to all the trigonometric lines and positions.

55. Discovery of error in Base.

The assumption that the length of the line between the figurehead of the Washington Monument and the centre of the cupola of Bay View, as determined by the United States Coast and Geodetic Survey was correct, proved to be erroneous, and was disclosed by the evidence of the large number of traverse lines which failed to close within required limits between triangular stations, and by the further evidence that the majority of measurements were apparently too short. Investigation failed to show that there were any details in the methods of measurements which would account for such a constant error, but rather that under favorable conditions of measurement the methods of measuring were capable of giving even better results than were demanded in practice.

56. Probable errors.

Had the base been correctly measured, the probability would be that in a large number of comparisons of equal merit, about one-half would be too long, and the other half too short, ranging between $+\frac{1}{15000}$ and $-\frac{1}{15000}$, whereas the errors were found to range between $-\frac{1}{5000}$ and $-\frac{1}{30000}$, showing that it was probable that the base was too long by about $\frac{1}{10000}$. It was subsequently proved that the actual error amounted to about 2 feet in 18,345 feet, or 1 in 9,690, and that, had the length as originally determined by the United States Coast and Geodetic Survey been accepted,

instead of the length as given by the more recent Harbor Board Survey, the error would have been undiscovered. The methods adopted to prove the correctness of the supposition, and to obtain a far more correct estimate of the length of this line, are described at length in special reports, which form very important and valuable chapters in the records of the work of the survey.

57. Preliminary Investigation.

A few simple observations were taken by secondary measurements, which confirmed, in a general way, the fact that the accepted length of the base line (Monument-Bay View) was too long, and it then became necessary to adopt methods of the highest order of precision and delicacy to determine the error.

METHODS ADOPTED TO DETERMINE THE LENGTH OF THE BASE LINE—MONUMENT-BAY VIEW.

58. Geodetic Measurements.

The operations necessary for the determination of the geodetic distance between two inaccessible points are:

1. The determination of the length in standard units of a suitable base measuring apparatus.

2. The measurement of a base line.

3. The connection of that base with the line sought by triangulation, from which the required length can be computed.

It is obvious that any error made in the original measurement of the standard will be transmitted proportionally through all the computed lines, independently of errors made by the use of the standard in measuring and of the accumulated errors of the triangulation; and that to secure results of great precision it is necessary to adopt methods of great accuracy and certainty in all three of these operations.

59. Comparison with Harbor Survey Base.

The evidence of the comparisons made with the Fort-avenue base line, from which the length of the line (Monument-Bay View) was determined for the use of the Harbor Board Survey, points clearly to the fact that an error arose in the trigonometric expansion from the base, or in the methods used in computing to develop the required length from the observations taken, rather than from any lack of care in the first two operations. The standards used were five meter bars of the United States Coast and Geodetic Survey of known length, and the base was measured with this apparatus by approved methods, the length agreeing with the result obtained by this survey within about 1 in 23,000.

60. Source of the error.

The expansion from this base in the line (Monument-Bay View) differs, however, from the expansions made from two independent bases by this survey by about 1 in 10,000,

showing errors in the Harbor Board triangulation, or in the reduction of results. Had the triangulation been perfect, or as nearly rigid as that carried out by the present survey, no such difference in the precision of the results would have occurred.

61. Standards of lengths.

In order to carry out these operations and comparisons successfully it was first of all necessary, as stated, to obtain the length in standard units of a steel tape 300 feet long, selected for the base measurements, under the particular conditions of support and tension as when used for measurements.

62. Method of using long steel tape.

The tape, when in use, is supported on pulleys every twenty feet of its length on a uniform grade, and is stretched under a horizontal tension of seventeen pounds, applied by spring balances at each end. To obtain this length at a definite temperature under such conditions, it was necessary to establish a comparator whose length could be compared with or measured by an apparatus of known precision, and then to compare the same length or to remeasure the length of the comparator with the tape whose length was required, a more direct comparison being impossible.

63. Comparator established.

Six granite stones, about five feet in length, were first set firmly in the ground at distances of one hundred feet apart, upon a

straight line and uniform light grade, on Mount Royal avenue, between Lafayette avenue and McMechen street, and graduations were made, with a tape of standard length, upon copper bolts sunk in these stones. The next step was to determine by more refined methods what errors had occurred in graduating or marking the bolts.

64. Establishment of length of Standards.

For this purpose a secondary base bar apparatus, obtained through the courtesy of the United States Coast and Geodetic Survey, was used, and the distances between the graduations from stone to stone were measured separately and, as a whole, as if each section was a separate base. The methods employed and description of the apparatus are fully given in Appendix No. 8, Report for 1892, United States Coast and Geodetic Survey. The final results of these measurements established the distances between the stones as standards for the comparison of tapes, with probable errors not exceeding about 1 in 350,000 in their known lengths or distances apart. In addition to the six stones set one hundred feet apart, one intermediate stone was placed midway between the last two stones for the determination of the lengths of fifty feet tapes in standard feet. The details of the measurements made and their reduction are given in a special report upon the Mount Royal avenue base line by Mr. D. B. Wainwright, Assistant United States

Coast and Geodetic Surveyor, under whose personal direction the work was carried out with the Coast Survey apparatus. The six stones with their known distances apart may be used in five different ways for the comparison of one hundred feet tapes, and in three ways for the comparisons of three hundred feet tapes.

65. Length of Standard Tape. The length of the tape actually used for the base-line work was taken as the mean of thirty-one comparisons made with the Mount Royal avenue standards, the observations being taken at night under precisely similar conditions as when the tape was used for the base-line measurements; so that it may be said that the tape length was determined with a degree of precision hardly less than that of the comparator itself, the errors in which could never be entirely eliminated except by re-measurements by more precise methods.

66. Precisions of Comparisons. The error in the tape length thus obtained was certainly less than the small amount by which the tape would expand through a change of one-half degree Farenheit of temperature, and hence, to obtain equally precise results in the measurements of the base lines, it was necessary to do the work at night by repeated measurements when the conditions for observing the temperature were best.

67. Base Measurements.

Two base lines were measured with the standard tape, the details of the measurements being fully described in special reports by Mr. George P. Wood, Assistant Engineer, who arranged and carried out most successfully every detail of the operations. The alignment and grading of the supports formed a difficult and tedious part of the preliminary operations owing to the rough ground crossed.

The Fort-avenue base was ranged between two car lines about parallel to the Harbor Board base and was connected with it by special measurements.

68. Trigonometric Connections.

The terminal stations of the Fort-avenue base line were made primary stations of the triangulation, and this base was connected with the line of Monument-Bay View as the opposite side of a quadrilateral. The Highland base crossed the line Monument-Bay View, and its terminal stations were also made primary triangulation stations, the two lines being diagonals of a quadrilateral. In addition, the stations Clifton and Lazeretto, with Hopkins as a central point, were connected with each other and with the terminal stations of both bases by observations which make the system of nine points extremely rigid or perfect.

69. Reduction of Results.

Owing to the large amount of labor involved no rigid adjustment has as yet been

made to obtain the best possible or rigid adjustment of the figure, nor was it considered necessary as the results obtained from the separation of the observations into two groups were so nearly in accord.

70. Precision of Results. These computations confirmed the suspicion that the assumed length of the line Monument-Bay View was too long by about two feet, and the correction made may now be said to be within about one inch of the truth in a distance of about 3½ miles.

71. Corrections to Triangulation. The correction thus obtained has been applied proportionately to all the lines of both primary and secondary triangulation, and there have since been no difficulties in the adjustment of traverse lines between computed trigonometric positions, except where mistakes of measurements requiring correction have occurred.

72. Monument Station. The centre of the head of the statute upon the Washington Monument is not well defined as a point, and is taken to be the centre of the intersections of all the sights taken from different points bisecting the head. To avoid the necessity of sighting at such a large object from short distances, the stations upon the balcony below the statue have been used in the secondary work, as these points are carefully referenced, both as to their relative positions to the centre of head and as to their positions referred to the centre of

the shaft. It was supposed that the error which occurred in the Harbor Board triangulation might have occurred from the incorrect referencing of the stations used on the balcony of the Monument, but it cannot be traced to this source. The results obtained from the recent base line operations are more than sufficiently accurate for any work within the city limits, and will probably not require revision unless the triangulation is extended.

FINAL RESULTS OF BASE MEASUREMENTS.

Mt. Royal avenue comparator: 73.

Final length of whole base .....152.40574m. ± 0.43mm.
500.0178 ft. ± 0.0014 ft.

Probable error, 1 in 354,432.

Highland-avenue base. Final result of three runs:

Mean length of base, 6,897.3412 ft. ± .0070.

Probable error of mean, 1 in 985,334.

Length of base used in triangulation, 6,801.3309.

Fort-avenue base. Final result of two runs:

Mean length of base, 7,500.6294 ft.

Probable error by comparison of each tape length, ± .0031 ft., or 1 in 2,419,355.

Probable error by comparison of totals and mean, ± .0005, or 1 in 15,000,000.

Length used in triangulation, 7,535.5671.

Monument-Bay View. Computed length:

From Fort-avenue base.....18,345.257
From Highland-avenue base.....18,345.354
Mean accepted length.....18,345.306
United States Coast and Geodetic Survey, original.....18,344.958
United States Coast and Geodetic Survey, harbor survey.....18,347.195

PRECISE LEVELS.

74. Precise Levelling.

Next in importance to the work of the triangulation division is that of the levelling division in providing precise level bench marks in all quarters of the city referred to a common datum of mean tide.

These bench marks are permanently referenced and numbered, and described for future and temporary use, and have been established by methods of the highest order of precision, the results comparing most favorably with the best results of the precise level work of the Mississippi River Commission and that of the United States Coast and Geodetic Survey. They form the primary series of established elevations from which all lines of wye or engineering levels can be based and tested, being placed in such positions that no line of ordinary levels need be more than one quarter mile in length without an absolute check being made upon its accuracy.

Upon the data furnished by the triangulation and levelling divisions the work of the topographic and property divisions is based; the work so far described being only a sketch of the methods and processes adopted in the establishment of points of reference and bench marks for the control of surveys in detail.

75. Levelling Division.

The work of the levelling division has been so well done and so ably presented in a special report by Mr. James A. Paige, under whose direction it was performed, that but a few general facts regarding the work can be given.

76. Results accomplished.

There have been established for permanent use and reference 606 precise level-bench marks established by running in duplicate 141 miles to total 282 miles of precise levels. These bench marks are established upon an average of twenty to the square mile, or about one for every square of 1,181 feet side.

The elevations of the bench marks are all referred to the plane of mean low tide in Baltimore harbor as given by the tidal observations of the United States Coast and Geodetic Survey.

77. Precision.

The computed probable error per 1,000 metres is usually taken as the standard for comparison in this kind of work. On the Baltimore survey it is 0.614 milometer per

kilometer, or less than one-fiftieth part of an inch per mile.

78. Comparison. In comparison with the result of similar work elsewhere:

Coast Survey Transcontinental Line of Precise levels from Sandy Hook to St. Louis, the probable error per kilometer ranges.....0.94mm. to 1.18mm.
Coast Survey Line from Mobile to St. Louis runs from.....0.74mm. to 1.25mm.
Mississippi River Commission Line from St. Paul to Savanna, Ill.....0.62mm.
New Orleans to the Gulf of Mexico.....0.69mm.
Baltimore Survey.....0.614mm.

The work of the Precise Levelling Division compares most favorably with the best work done elsewhere by the most precise of modern methods, and is so far in excess of the requirements of ordinary engineering levelling that it has been unnecessary to consider the adjustments of the lines to give better results.

79. Wye-levels and elevations. Upon these precise level bench marks have been based and adjusted several hundred miles of wye levels from which about two

thousand elevations have been established for the control of the topographic work, and from the latter not less than 125,000 elevations by stadia from which the contours have been located upon the topographic maps.

METHODS AND PROCESSES ADOPTED FOR THE PRODUCTION OF THE MAPS OF THE TOPOGRAPHICAL SURVEY OF THE CITY OF BALTIMORE.

80. Areas. The area embraced by the maps of the topographical survey of the city of Baltimore is approximately thirty-two square miles.

The area controlled by the primary triangulation is about 54.7 square miles, and the actual land area within the corporate limits of the city is about thirty square miles.

81. Sub-divisions of City. These areas are most conveniently subdivided by the meridian passing through the Washington Monument and by a due east and west line through the same point or normal at the monument into four quarters.

The same lines of subdivision also serve as the axes from which the rectangular co-ordinates or latitudes and departures of all established points are computed, and as axes for the indexing and referencing of all maps.

82. Sections.

Parallels and perpendiculars to the meridian at intervals of one mile from the Monument again subdivide these quarters into sections of one square mile area, which are numbered progressively from the Monument by the distances in miles of their farthest corners from the Monument axis.

Thus the square mile embraced between the lines passing through the Monument and the first mile lines north and east is called "Section 1 north, 1 east," and the next square mile directly north of this is called "Section 2 north, 1 east," and so on; the system admitting of indefinite extension in any direction without disturbing the original plan of notation.

83. Sub-divisions of Sections.

Each square mile is subdivided into areas of quarter square miles, which are uniformly numbered in each section in the following manner:

Northwest quarter section, numbered 1.
Northeast quarter section, numbered 2.
Southwest quarter section, numbered 3.
Southeast quarter section, numbered 4.

Thus, Section 3 north, 2 east—4, refers to the southeast quarter section of the square mile 3 north, 2 east.

The plan thus outlined was adopted at the organization of the work to define definite areas for the topographical surveys, and

has not been departed from since in any particular.

The same system is applied to maps of all scales; areas of less than one square mile being indexed and referred to. 1—By the section number in which they belong; 2—By a group number in that section; 3—By a sheet number in that group. 84. Index Maps

In the adoption of the scale of 200 feet to one inch, or 1 : 2,400, for the topographic maps, the quarter section, or 160 acres, became a most convenient unit for the size of a field sheet, the combination of four such field sheets making one square mile, or sheet for record or publication 26.4 inches square. 85. Scales

In accordance with the regulations of the survey adopted in the beginning of this work, it was decided to arrange for a simple conic projection of the whole area to be surveyed, so that there might be no distortion of details in joining contiguous sheets. 86. Projection.

The record maps of the Topographical Division, when combined, cover an area of 42 square miles or sections, and would cover a wall space of about 15 by 13 feet; while the maps of the Property Division, if combined, upon the scale of 40 feet to 1 inch, would cover a wall space of about 3,630 square feet, or 30 square miles. 87. Record Maps.

88. Publication

In the practical problem of map-making it is necessary to adopt sizes for maps which can be economically published and easily combined, and the subdivision of the area surveyed into rectangles of uniform and moderate size is most convenient.

In the projection adopted for the maps of the Topographical Survey, the map is considered as a whole, the co-ordinates of the points of intersection of parallels of latitude and meridians at intervals of ten seconds with the sheet lines, having been computed and arranged in tables for the projection of sheets of any desired scale.

89. Standard Meridian.

The Monument meridian was adopted for the central meridian of the entire series of maps, the sheet lines being parallels and perpendiculars to this meridian, and, consequently, due north and south and east and west lines, as defined in the proposed act to establish the Monument meridian as the standard meridian for the city of Baltimore.

90. Sheet Lines

The sheet lines of the maps are also parallels to the computed co-ordinate distances of established points, and in consequence all co-ordinate distances which are referred to the Monument axis can be most easily plotted from two sheet lines.

It may be necessary to state that the sheet lines are not true meridians, and true east

and west lines or normals, but are strictly standard north and south and east and west lines, under the definition already given, which makes all parallels to the Monument meridian due north and south lines, and all perpendiculars to that meridian due east and west, a very necessary condition for the absolute control of surveys in detail and for the utilization of the results of the Topographical Survey.

91. Convergence.

The slight convergence within the limits of the city of Baltimore of the terrestrial meridians, and the curvature of the parallels of latitude, can be detected by means of the scales of seconds of latitude and longitude which are projected upon the margins of the sheets.

92. Latitude and Longitude.

By means of these scales the latitude and longitude of any point upon the surface of the map can be obtained with great accuracy, and more easily than from the customary projection of meridians and parallels across the surface of the map; the curvature of these lines upon any sheet being inappreciable upon the large scales used.

93. Rectangular Projection.

In lieu of projected parallels and meridians, a rectangular projection of parallels and perpendiculars to the standard or Monument meridian, at uniform distances from the Monument, is used upon all field, office and

record maps, which are numbered progressively from the Monument upon the edges of the sheet, and by means of which the positions of all established points are plotted with great accuracy.

The intersection of these co-ordinate or projection lines with the sheet lines of the maps of every scale used have been tabulated and arranged for convenient plotting, as well as the intersections upon the sheet lines of meridians and parallels.

94. Constants of Projection. The constants adopted for the simple conic projection of the maps and the formulas used for their derivation are those given in Bulletin No. 50 of the United States Geological Survey—"Formulas and Tables to Facilitate the Constructions and Use of Maps," by Professor R. S. Woodward, from which the lengths of arcs of meridians and parallels at the latitude of Baltimore were computed for "Clark's Spheroid," the latitude and longitude of Washington Monument being that given in the records of the United States Coast and Geodetic Survey.

The preparation of these special tables for the projection of maps of the city of Baltimore formed part of the first work done by the computing division.

95. Co-ordinate Plotter. To insure the absolute accuracy of the projection of all maps, a special instrument

or co-ordinate plotting machine was devised, having slides and scales arranged for the movement of a needle pricking point in two directions at right angles to each other.

The scales have a range of one metre in both directions and are graduated to read to tenths of milometres, so that the pricking point can be set anywhere in an area of one square metre with great precision and rapidity.

96. Projection Tables.

The special tables are arranged for projecting maps either by ordinary methods or by machine, and in the latter case the marginal edges of the paper are placed parallel to the scales of the machine, and the zeros of the scales are made to coincide with the corner of the sheet nearest the Monument. All the necessary points for the projection of sheet lines, co-ordinate lines, and parallels and meridians, are pricked in succession upon the surface of the paper at one setting, after which the projection lines are inked in and the sheet is prepared for the plotting of details.

By this system the only errors entering into the registration of contiguous sheets upon their edges are confined to those due to the shrinkage of the paper, which varies with the hygrometric conditions of the atmosphere; and the errors of compilation of

details upon the map are confined to the small spaces between the co-ordinate lines of projection upon the sheets.

97. Skeleton diagrams.

Among the many minor details of office work connected with the preparation of maps may be mentioned the projection of skeleton maps or diagrams of triangulation and traverse work and index maps, showing the progress of work.

The skeleton diagrams indicate to the computors the geometrical relations which exist between the established points and suggest the methods by which the field observations and measurements can be combined and computed. They also indicate to the draughtsmen the positions of all stations to be plotted by co-ordinates. Lists are made out for each sheet of the stations within its limits and their co-ordinates, distances apart, and the azimuths of all lines are supplied from the Computing Division. The refinements of final adjustments are not necessary for the plotting of the established points of control when the errors do not exceed an appreciable amount upon the scale of the map, and this enables the preliminary work of the computors to be used to advantage for plotting.

From this data traverse and triangulation points are plotted by co-ordinates, and their positions are checked by their distances apart.

98. Data for Field Sheets.

Sheets thus prepared, with a complete skeleton of accurately plotted stations and projection lines, are ready for details, and when sent into the field are accompanied by the notes used in their projection and by complete information regarding the descriptions, elevations and positions of all stations and bench marks.

TOPOGRAPHICAL DIVISION.

99. Scale of Publication.

The scale adopted for the maps of the Topographical Division, 1:2400, or 200 feet to one inch, corresponds very nearly with that adopted, 1:2500, for the cadastral or property maps of all England, upon which a square inch represents approximately one acre, and is sufficiently large to enable the acreage of properties to be estimated from the maps to the hundredth part of an acre with certainty, and to show all ordinary buildings and natural objects in their relative proportions.

100. Details Topographical Maps.

In order that the Topographical Maps should have the widest possible general value, it is necessary to preserve not only the relative proportions of all details, such as the widths of roads, sizes of buildings, etc., but their correct relative positions, and to make the maps complete in all matters of detail which can be represented without distortion.

101. Conventional Signs. Conventional Signs are adopted to show the character of cultural details, to distinguish between cultivated lands, wooded areas, grass lands, marshes, orchards, ponds, quarries, excavations and embankments, and the material of which buildings are constructed (whether frame, stone or brick).

Symbols are used to distinguish between the many kinds of fences, hedges and stone-walls which sub-divide property. Also for the various kinds of railroads (whether of steam, cable, electric or horse power), and the character of paving is indicated by letters, so that the map, when properly understood and interpreted, will convey information of very wide range.

102. Control. The location of all triangulation and traverse stations and bench marks are shown upon the maps, with the numbers or names by which they are referenced.

103. Names. The names of property owners, important estates and buildings, of graded and projected streets, roads and alleys, are given to show the existing conditions at the date of the survey.

104. Contours. The most distinctive feature of the topographical maps is the representation of the natural features or modelling of the ground by horizontal contours at vertical intervals

of five feet, the steep slopes of rock cuts, quarries and grading being represented by combined hachure and contour sketching. The elevations of all bench marks and of contours are uniformly referred to mean low tide at Baltimore, as established by the tidal observations of the United States Coast and Geodetic Survey, and carried throughout the limits of the city by lines of precise levels, and by many additional miles of wye levels, establishing the grades of all roads and streets, and the elevations of all points of control or reference, the contours being located by the free use of the telemeter or stadia rods.

Each contour line represents to scale the horizontal section of the surface of the ground at a definite elevation above mean low tide, and the successive contours are numbered by their elevations progressively towards the summits of hill-tops, every fifth contour or twenty-five feet difference of elevation being marked by a heavier line for distinction.

105. Use of Contours.

The contour lines furnish both the means of ascertaining the elevation of any point shown upon the map to the nearest foot above mean low tide, and of obtaining, in connection with the horizontal scale of the map, the natural grades or profiles of lines in every direction.

Correct topographical maps are of the highest value to the engineer in making preliminary estimates for all improvements involving grading, and such maps are essential for the correct study of drainage and sewerage problems, and for the broad study of the most economic plans for projected street extentions and other municipal improvements.

For these and other purposes the maps of the topographical division are designed, and will be published in sheets of contiguous square miles.

106. Limits to Use of Maps.

The practical limit to the value of maps of every description for horizontal measurements, no matter how elaborate or refined are the means of their production, is established by their scale, the smallest division that can be estimated by the eye in plotting, becoming a unit for establishing the degree of precision required in field measurements.

No map can serve both ends of combining great precision in details with the accurate projection of a large area, and the scale selected for the general topographical maps of the city of Baltimore, 1:2400, or 200 feet to one inch, is one which experience has shown to be most useful for the many purposes desired.

107. Scale City Maps.

In the closely built up sections of the city, the scale adopted for plotting has been doubled —1:1200, or 100 feet to one inch—as necessary for the more accurate plotting of details.

The limitation of the practical uses to which topogrophical maps can be put, introduces the necessity of using methods of field work, and such units of measurement as are best adapted for their scales.

108. Methods of Mapping.

In the special work of the Topographical Survey of the city of Baltimore, the details of topographical maps have been filled in either by transit and stadia, or plane table and stadia methods, based upon the same admirable control of triangulation and traverse points which serves also to control or limit the errors of the property work, and had the work of the survey been confined solely to mapping, the number of accurately established points of control might have been reduced with economy.

The actual methods of field work used differ in consequence in some important particulars from similar work elsewhere, and have been developed in the progress of the work to meet the special problems involved.

109. Scale Field Work.

The scale of field work being the same as that of publication—1:2400—extreme minuteness and accuracy in drawing is required,

and the difficult and variable conditions for topographical surveying in different parts of the city renders the comparison of the relative merits of the systems of field work, used with similar work elsewhere, valueless, without proper allowance for the amount of detail taken, the conditions for surveying, and the scope and object of the surveys.

110. Principles Involved.

In a general way all topographical maps are made to represent, upon a definite scale, the relative positions of all objects in the area surveyed, so that the distances apart between any objects upon the map bear a fixed ratio to the horizontal distances between the same objects upon the ground, and, this being true of lines in all directions between fixed points, the relation is established that all figures joining the same points upon the map and ground are similar to each other, the important properties of similar figures in space, or the laws of projective geometry, being available and made use of in topographical surveying.

111. Stations.

Topographic stations are invariably selected as points upon the ground having a commanding view of details, and in the transit and stadia methods of surveying are generally located by traverses between triangulation stations or established points.

In plane table work the least possible dependence is placed upon traverse work and

the stations are in general located by trigonometic or intersection methods, the absolute certainty of their accuracy of position upon the map being established when certain geometrical laws are obeyed.

112. Location of Details.

The methods of locating details from topographic stations, whether by transit and stadia or plane table and stadia, are identical, except that in the latter method checks can constantly be applied to test the accuracy of the map.

The actual number of stations necessary in topographic work depends largely upon the amount of details to be located and their selection and control upon the skill of the topographer.

113. Control by Traverses.

In the selection and establishment of the permanent points of the precise traverse systems, forming the points for controlling the topographic and property surveys of the city of Baltimore, the purpose has been to so locate them that they will not easily be disturbed and that they may be always accessible for use.

In general the precise traverse points are located upon the shortest and most direct lines between triangulation stations, and the areas between the main lines are sub-divided by similar lines into polygons not exceeding

7,500 feet in perimeter, so that the transit and stadia traverses need not exceed one-half mile in length at most.

114. Tertiary Triangulation. In the western section of the city many of the points were established by tertiary triangulation from traverse bases. The number of these points being very great, the necessity of applying the methods of intersection in locating plane table stations for topography did not exist, and signals upon the established stations have not been used as usually one or more of the established traverse points have been within the range of the telemeter rod from every topographic station. All of the topographic work has in consequence been based upon very short stadia traverses connecting with well-established points.

115. Bench Marks. For the complete control of topographic work, permanent bench marks have been established in all parts of the city by lines of precise level, and the traverse and triangulation stations have in addition been made temporary bench marks by lines of wye levels. The complete information furnished to the topographers being the descriptions, elevations and co-ordinates of all established points, and the azimuths and distances of the points from each other.

116. Field Sheets. The field sheets for both transit and stadia, or plane table and stadia work, are 18x24

feet in size, leaving a wide margin to be surveyed (13 ft. 2 in. by 13 ft. 2 in.) within sheet lines. All work is plotted and made complete in every detail in the field, the wide margin allowing the plotting of many additional points of control exterior to the work, and the transfer of marginal notes.

117. Location of Details.

The details of the maps are filled in by direct measurements of direction, or azimuths and distances from each topographic station, with occasional measurements for plotting of details with tape; free use of the telemeter being made in locating elevations or in tracing contours.

118. Details of Work.

Summarizing the broad general feature of the topographical work, the following details are carried out.

1. The main points of control established by triangulation or traverse are plotted upon the maps in the office by co-ordinates.

2. The lines of stadia traverse, establishing topographic stations, are measured in duplicate, and are plotted in the field and checked by the points of control.

3. The details visible from each topographic station are located by direct measurements of distance and direction from each topographic

station in succession, by stadia or tape, forming a series of radiating measurements to determine the relative positions of and not the dimensions of objects.

The distinction made in the last paragraph illustrates the difference which exists between the methods adopted for topographic surveying and those of special surveys of the details and dimensions of the properties, the degree of precision required in determining a point or position being limited by the scale of the map.

119. Units of Measurement. The unit adopted for plotting and measuring upon the topographic maps is the meter, as most convenient for a scale of 1:2400, special scales, having feet 1:2400 or 200 feet to one inch, on one side and meters 1:2400 upon the other, being used for plotting all details.

STADIA MEASUREMENTS.

120. Stadia. Without entering at length into the theory and practice of stadia surveying, the elementary principles involved are as follows:

121. Construction of Instruments. The diaphram of all surveying telescopes contains sharply defined vertical and horizontal lines, whose intersection marks the optical axis or line of collimation of the telescope, and by means of which the telescope is directed to any fixed mark, the

horizontal and vertical graduated arcs and levels upon the instrument furnishing the means of measuring horizontal angles or directions and vertical angles above or below the horizon of all pointings.

For stadia readings two additional horizontal lines or webs are inserted above and below the centre horizontal line, and by their distance apart make a definite fixed angle of vision in the field of the telescope.

The space subtended by these cross hairs upon the image of a graduated rod seen in the telescope becomes in consequence a measure of its distance from the instrument.

The instruments which exist for stadia surveying are of several classes, of which the highest type are the tacheometers, having lenses especially made to bring the apex of the angle of vision between the stadia hairs exactly to the vertical axis of the instruments, from which all measurements should be made. In instruments of this type, the important relation holds that the length of rod subtended between the cross-hairs is exactly proportional to its distance from the instrument.

In ordinary telescopes the length of the rod seen between the cross hairs is proportional to its distance from the focal plane of

the object lens of the telescope, introducing a slight error in measuring which is compensated for to a great extent by the methods adopted in graduating special stadia or telemeter rods for each instrument.

122. Wire-interval. In the instruments made for the topographical survey the cross hairs have been set to read approximately, either one foot at one hundred feet or one and a-half feet at one hundred, or angles, respectively, of about thirty-four and fifty-one minutes.

The smaller the angle, subtended by the stadia cross hairs, the longer will be the distance at which a telemeter rod of given length can be read, and the wider the angle the greater the degree of precision with which the graduations of the rod can be read, as the subdivisions of a telemeter rod will be large or small in direct proportion to the angle between the cross hairs.

The advantages of a wide angle or separation of the stadia wires in the case of work of large scale and close detail, outweigh those of gaining a long range by diminishing the wire interval and making the graduations upon the rod very small.

123. Graduations of Rods. With the meter as a unit for plotting, the spaces intercepted upon a vertical rod at distances of one hundred to three hundred

meters are obtained by experiment for each instrument, and the mean of a large number of observations is taken to obtain the constants for graduating the stadia boards or telemeter rods. The boards used are twelve feet long, five inches wide, and are graduated symetrically with reference to the centre of the board, so that either end may be held upon the ground, having figures similar to those used upon the United States Lake Survey.

In practice the rods are held vertically and the apparent observed distance requires a correction for slope, the difference of elevation being computed by means of the observed distance and vertical angle from special tables. Each pointing of the telescope gives the direction, distance and elevation of the base of the telemeter rod from each station, and by the combination and plotting of these observations the entire details of the topographical maps are made up.

124. Transit and Stadia.

In the transit and stadia work the transit is oriented at every station by setting the plates to read zero on the horizontal limb, when the telescope points due south in the plane of the meridian of the station, and the directions of all objects are read as azimuths, or continually to the right around the horizon from zero to 360° in the com-

plete circuit. With the information furnished to the topographers of the azimuths of all established traverse lines no difficulties or delays occur in the work, and the errors of azimuth in running transit and stadia traverses are confined by regulation to two minutes of arc in closure.

125. Adopted methods. The method of field work which has given greatest satisfaction in the special work of the topographical survey of the city of Baltimore has been transit and stadia surveying, with notes plotted in the field upon a plane table board and made complete at each station occupied. This has been especially true in closely built up areas, where methods of intersection were impossible and where measurements were required in great detail.

Upon the large scale of the property surveys the measurements taken in the field by angle and tape have been plotted in the field with great economy and success, and the plane table has been used to advantage in filling in elevations and contours.

126. Beginning made. In the special case of the topographical survey of the city of Baltimore, the topographical work in detail was begun in the northeast quarter during the progress of the establishment of the triangulation and traverse stations, and before the instruments

ordered and designed for the topographical division were completed. The control of the work was mainly through transit and stadia traverses, connecting with preliminary stations of the triangulation division.

127. First methods.

The methods of field work first adopted were similar to those carried out by the survey of the city of St. Louis, field notes being taken for office plotting, under the personal direction of Mr. O. W. Connet, Assistant-Engineer in charge of the Topographical Division. Mr. Connet labored under the special disadvantage of having to train all the men, from rodmen up, in every detail of the work, and deserves great credit for the progress made in his division.

128. Comparisons of results

In comparison with topographic work elsewhere it is essential to consider the differences which exist in the methods used, the scales adopted for publication and the object and scope of the surveys, as having very important bearings upon the question of economy and cost.

In the United States the surveys, with which the topographic work of the survey of the city of Baltimore can be most favorably compared, are those of the city of St. Louis, made for the purpose of perfecting plans for the drainage of the city and other purposes, begun in 1889, and the topograph-

ical survey of the District of Columbia, made by the United States Coast and Geodetic Survey, between the years 1880 to 1891, for the purpose of extending the streets and avenues, and involving the subject of future grades.

129. Object of topographical survey. For both these and other purposes, as outlined by the ordinance providing for a survey, the topographical survey of the city of Baltimore was organized; but there exists no such elaborate work elsewhere as has been begun in the property division, with which a fair comparison can be made, except with the cadastral or property surveys of large cities abroad.

130. Comparison with St. Louis survey. In a direct comparison of methods with the work of the survey of St. Louis, the following differences in details are important, the scale of field work being the same, 1:2400.

Control—Baltimore:

An adjusted system of steel tape traverse lines between triangulation stations and tertiary triangulation from traverse bases forming polygons not exceeding 7,500 feet in perimeter and errors of closure limited to 1 in 15,000.

Average in unbuilt up sections . . . . . 3 triangulation stations.
42 traverse stations.
—
Total . . . . . 45 precise points.
to each square mile upon which to base transit and stadia traverses.

Control—St. Louis:

Average two triangulation stations per square mile upon which to base transit and stadia traverses.

Contours—Baltimore:

Five feet apart. Datum mean low tide, Baltimore.

Contours—St. Louis:

Three feet apart. Datum city directrix, an arbitrary plane.

Buildings—Baltimore:

All buildings of every character are located.

Buildings—St. Louis:

Only public buildings were located.

Fences—Baltimore:

All fences and walls, wherever existing, marking boundaries and sub-divisions of property are located.

Fences—St. Louis:

Fences marking street lines were generally taken.

Streets—Baltimore:

Surveys of every street, road and alley are made and shown upon the topographic maps, without regard to the public records, to show the existing and projected street improvements.

Streets—St. Louis:

Such street stones as could readily be found were located, and a complete survey of streets was not attempted. The streets were developed upon the maps by means of the public records, first using the stadia connections obtained with street corners. Here and there a street corner was connected by triangulation.

Co-ordinates of the Baltimore Survey:

Based upon spherical rectangular co-ordinates of the triangulation, and are referred to one central meridian.

Co-ordinates of the St. Louis Survey:

Based upon the geodetic latitudes, longitudes and azimuths of the triangulation.

Topographic Notes—Baltimore:

Taken in full in note-books by a recorder; reduced and plotted complete in all details in the field, to guard against errors of observation, plotting and omissions. Average distance of stadia stations, one hundred and fifty meters; average number of stadia points located, per acre, ten; range of telemeter rod, about two hundred and forty-five meters.

Topographic Notes—St. Louis:

Taken almost entirely without field sketches for office plotting. Average distance of stations, two hundred and eleven meters; points, per acre, four; range of rod, four hundred and sixty meters.

131. Survey of District of Columbia.

The survey of the District of Columbia has been referred to as the most extensive survey, on so large a scale as 1:4800, ever performed in the United States, covering about forty-eight square miles, all cultural details being shown upon the maps.

The methods of field work used are described by Assistant J. W. Donn, in Appendix No. 16, Report for 1891, United States Coast and Geodetic Survey, from which it appears that the work was based upon a sufficiently minute triangulation, the plane table, telemeter and the wye level and rod were used for all determination of details.

The contour interval was five feet, the datum plane furnished by the Engineer department being used, and from which lines of level were run along all roads, avenues and railroads, and where roads were infrequent across country, so that the sum total of all bench-marks established for purpose of contouring ran high up into the thousands. The plane table stations were established so as to easily reach any part of the field, and so close together that it was generally possible to encompass the distance from station to station when intervisible, by readings within the range of the telemeter.

132. Comparison with District survey.

In comparison with the topographical work of the survey of the city of Baltimore, there are striking points of resemblance in the objects for which the surveys were made, and in the character and details of the maps, with marked differences in the methods employed to obtain the same results.

In point of scale – the practical limit to the use of the maps of the District of Columbia for horizontal measurements is but one-half of that of the maps of the city of Baltimore, or granting the accuracy of the location of all details upon the District maps, measurements could be relied upon only to the nearest ten feet.

In point of control, the number of points necessary for topographic work alone in the

city of Baltimore is excessive, compared merely with topographic work elsewhere, but the provision has been made by the establishment and referencing of permanent marks in all parts of the city for the continual revision of topographical and property maps, with the least possible amount of future expense.

With the exception of referencing triangulation stations at long intervals, no such provision was made for the continual revision of the District maps, and their general value is greatly limited by the many changes necessary, due to the rapid suburban developments which have taken place since the surveys were made, and which render the maps almost out of date at the time of their publication.

133. Scale District survey.

The advantages gained by the smaller scale, 1:4800, or four hundred feet to one inch, in the district surveys would be that the plane table sheets of equal size to that used in the Baltimore surveys would cover four times the area, or one square mile, and a much less elaborate control of but two or three points to the square mile would suffice for the plane table work.

The plane tables in the district work were placed in positions and the topographic stations determined by one of the several

methods of the three-point problem, and probably comparatively rarely by traverse. Another advantage gained by smaller scale would be that the necessity of extreme refinements in locating positions by telemeter or intersection would not be so great, and in consequence a smaller wire interval, wider range of rod and, necessarily, fewer topographic stations were required.

134. Location of contours.

The most striking point of difference exists in the methods used to locate contours.

In the case of Baltimore work there exists:

1. A primary system of precise level bench marks, at an average distance of about one-half mile apart.

2. Wye level temporary bench marks on all traverse points, averaging, if symetrically located, about eight or nine hundred feet apart.

3. Stadia determinations of the elevations of topographic stations limited in error to three-tenths of a foot.

4. Stadia determinations of the elevations of, upon an average, nine points per acre, or, if symetrically grouped, about seventy-five feet apart, over the entire surface, with probable errors rarely exceeding one-half foot between which the five-foot contours were interpolated or directly traced.

In the case of the district surveys the levels were not based on any system of precise bench marks, but the wye level was freely used after the elevations of all topographic stations had been established and checked in tracing successive contours upon the ground, the points upon each contour being located by telemeter or stadia.

The degree of refinement appears excessive, in view of the scale of map used, as the errors of actual location of the contours upon the map would greatly exceed the small errors of levelling, and the minute undulations of the surface of the ground are never taken into account in any practical uses for which topographic maps are required.

In the case of the Ordnance survey of Great Britain, the contours have been actually levelled and staked out upon the ground and afterwards surveyed, with the result that the processs has proved so expensive that only one hundred-foot contours were located, and no practical use has ever been made of them.

PROPERTY DIVISION.

135. Objects of cadastral survey.

In order to form a just estimate of the value of the work already done by the property division of the Topographical Survey, and of the amount of work to be done

to complete in detail a cadastral or property survey of the city of Baltimore, it will be necessary to define somewhat in detail the objects and uses of such a survey.

The primary object of a cadastral survey is for tax valuation, and involves the location and description of every individual tract of land within the limits of the survey, and the character and extent of the improvements upon them.

In order that the results of such a survey may be of lasting value and of the highest possible public utility, they should be of such a high order of precision as to supersede without question the records of previous surveys, unless shown to be in error.

The general public interested as owners of property require to know not only the areas of their tracts, but the correct descriptions, by metes and bounds, of the boundaries of their properties and its relations to the properties of their neighbors.

136. Necessity for survey.

Theoretically, if all the surveys made at different periods of properties and their manifold subdivisions had been made with precision, and the lines so established preserved with care, the necessity of making the cadastral survey of the city would not have existed, and the ultimate object of the

work must be, if its results are made of lasting value, the adjustment of the errors of all past records, and the limitation of the errors of future land measurements.

137. Present work of survey.

The present function of the survey is not so much to attain this immediate end as to present reliable maps showing the relative positions of all buildings, property lines and other details with sufficient accuracy for all the practical uses to which maps can be put.

138. Future work.

Beyond this, in the utilization of the detailed measurements from which the maps are made, lies the possibility of settling beyond dispute the intricate adjustment and definition of property lines.

This being taken to be the object of highest public importance to be attained, it will be well to consider the main details of the problem and how far the work already done will lead to its solution.

139. Accuracy of survey.

The system of measurements of the Topographical Survey in all its branches is designed to secure accuracy in the position of details and to prevent accumulative errors of all kinds in measurements.

140. Positions.

For simplicity of illustration the positions of all established stations or fixed points are defined by their distances north or south of

the central station of the city—the Washington Monument—and east or west of the meridian, or north and south line passing through the monument, or equally well by their distance from the monument and the direction or azimuth measured by angle from the Monument meridian.

141. Bearings. By the preservation of continual and rigid tests of all angles measured in the triangulation and traverse system the bearing or azimuth of every line in the entire system of measurements down to the minute measurements of details is known and referred to one central or standard meridian, and by the combination of angle and distance measurements submitted to strict analytical tests the positions of all triangulation and traverse stations are computed, and are considered as fixed points or centres from which details can be located exactly.

142. Precision actually attained. Base measurements. The degree of precision possible and actually attained is well illustrated in the comparisons made between independent sets of measurements to obtain the length of the straight line between the centre of the head of the statue upon the Washington Monument and the centre of the cupola of the Bay View Asylum, two preliminary calculations agreeing within about one-tenth of a foot and proving the previous determination of that length for the Harbor Board Survey

to have been in error by about two feet in a distance of 18,345 feet.

143. Precision triangulation.

A second illustration exists in the determination of the position of the centre of the cupola of De Sales Convent at Catonsville through four independent sets of primary triangles, all the computed positions lying within a circle of radius of less than two inches.

144. Precision computed positions.

A third illustration exists in the alignment of the western boundary of the city, the error of computed azimuth or direction of line between the northwest and southwest cornerstone being about one second of arc, or a deflection of less than one-tenth of a foot in 23,852 feet, the length of the western boundary and the apparent deflection of the line being about the same amount at the centre, the direction and deflections being computed through an intricate system of independent traverse and triangulation lines.

The first well illustrates the general degree of accuracy of the base-line work done, the second the accuracy of the primary triangulation, and the third afforded an exceedingly delicate and refined test to be made of the computed co-ordinates of the combined traverse and triangulation system.

In placing prescribed limits to the errors of position of all stations based upon the re-

quirements of future surveys a long step has already been taken towards the solution of the problems of the adjustment of old records and the control of surveys in detail.

145. Location existing lines.

One of the main objects of the Property Division has been to locate existing lines of buildings and of curbs in their correct relative positions, the survey having been made entirely without regard to past records and to show existing conditions.

The compilation of these measurements, in the form of maps of uniform scale, show remarkable differences in the width of streets, block dimensions and in the directions of streets compared with the assumed and recorded conditions.

146. Adjustments — old records.

The problem of such an adjustment may be divided into three divisions:

1. The definition of the positions of street intersections and the directions of streets.

2. The definition and description of the boundaries and areas of blocks.

3. The adjustment of the dimensions of each lot in every block so that the sum total of their dimensions will agree with the block dimensions, and that their descriptions may be given by metes and bounds in correct units of length or standard feet, and the bearings of all property lines as directions referred to one standard meridian.

147. Object and necessity of adjustment.

The ultimate end of such an adjustment is to apply to land correct standards of measurement and description, such as are demanded for and applied to all other articles of value in the adoption of uniform standards of length, volume, weight and area, and without which commerce could only be carried on by barter and guess work.

148. Definition of street lines.

The first part of the problem deals with the correct definition of the existing directions of streets and building lines, and by direction is here implied the bearing or angle which the direction of the street or line makes with the standard meridian adopted by this survey for the city of Baltimore.

The adoption of the Monument meridian as a standard direction eliminates at once all uncertainty as to the direction of a line and reduces to a minimum the labor of adjustment of observations and computation of positions.

149. Uncertainty of records.

In past records, mainly of compass and chain surveys, there exists always the uncertainty of knowing whether the bearings given are referred to the compass meridian of the date of the survey, or whether the surveyor made the attempt to apply a correction to the compass bearing to reduce the compass bearing to a true meridian.

Again, in the descriptions of tracts there is frequently to be found the combination of compass bearings of lines surveyed at different times, without regard to the annual changes or variation of the direction of the compass meridian, introducing errors not due to surveying.

150. Poppleton's Survey. The very best of evidence that at the period of the Poppleton survey the compass meridian was used is shown by the westerly deflection of all streets laid out at that period of about three degrees, and that in interpreting the subsequent orders to follow the descriptions of the Poppleton map in street extensions city surveyors used the compass meridian without regard to the change of variation is shown by the marked curvature of many streets, such as Edmondson avenue towards the west, following to a marked degree the law of variation of the compass without regard to the effect upon records and properties.

151. Recent changes in City work. That in recent times a change of methods occurred is shown by the fact that the new York road was located as nearly as possible on a true north and south line instead of parallel to Charles street, which formerly was supposed and accepted to be north and south, and again in the alignment of the present northern boundary line, which under the old interpretation of the direction of a

due east and west line would have been run as a parallel to North avenue, but departs from that direction at the rate of about three hundred feet in the mile.

There exists, therefore, not one meridian in past records, but many meridians, varying every year since the city was first laid out, and confusion will always so exist unless some simple definition is made of due north and south and due east and west lines.

152. Definition of north and south lines.

Under the present laws governing the work of the Topographical Survey all north and south lines are parallel to the Monument meridian, and all east and west lines are at right angles to that meridian, leaving no room for doubt as to the meaning and interpretation of bearings or recorded azimuths.

153. Irregular street deflections.

In addition to the serious complications arising from the sources named there exist street deflections of very irregular character, due to errors in surveying and extending street lines, and to a very great extent to the destruction and displacement of the original landmarks marking street corners.

154. Preservation of landmarks.

This alone furnishes a very strong argument for the preservation of the stones and other parts of reference marking the stations of the present work.

There are over two thousand five hundred such monuments located by the Topographical Survey to date by most precise methods, any two of which can be used as a base for future surveys, and which furnish the means of limiting the errors of surveys in detail to a minimum.

From each of these stations, or from traverses depending upon them, are located by distance and direction measurements the positions of existing building and curb corners and the details of buildings and other information.

155. Value of stations located.

Aside from their immediate value in providing the means of making accurate maps these measurements furnish the data for computing the positions of points upon the existing building lines, block lengths and directions or bearings of lines. Such work has at present not been taken up except in the case of isolated problems.

156. Street widths and building lines.

The measurements of street widths between existing curb lines and buildings on opposite sides of a street show great variations, and in consequence prove that in addition the existing building lines are not parallel, so that the present condition of street and building lines will differ from existing records in the following important particulars:

That in every part of the city where streets were designed to be parallel and cross streets to intersect at right angles and of regular widths it will be found that there exists upon the ground a network of streets which do not follow any regular laws as to directions, intersection or width, and further than this, the original landmarks having long since been destroyed except in rare cases, there exists no evidence to show that any uniformity existed in the methods of measurement or standards of length originally used. 157. Present condition of streets.

As it is a self-evident fact that no distortion to a geometrical figure can be made without altering its linear dimensions, so is it also self-evident that the correct statement of existing conditions will differ radically from the past records, even if we assume that uniform standards of length and measurement were used, and these facts show the absolute importance to every property owner of the city of having uniform and consistent records made upon the basis of an accurate survey of the city. 158. Effects on records.

Not only are the private owners interested in the correct valuation and description of their properties, but the general public should equally be interested in the preservation and definition of the highways and streets of the city, and, as no such result can be attained except through refined and ac- 159. Importance of correct surveys.

curate methods of surveying, it can be done at least expense by adopting and continuing to its legitimate conclusion the present work of the Topographical Survey, while its landmarks are still accessible and its organization is perfected for such work.

160. Directions and intersections of streets.

The axis of a street may be defined as the line which is midway between and parallel to the curb and building lines, but as in the present instance no uniformity has been found to exist in the widths or deflections of streets, the axis would have to be taken as that line which would most nearly pass through a series of points midway between existing building or curb lines. The least possible amount of change in existing conditions would occur if the direction of the street axis was defined from street intersection to street intersection, and the best solution and correction which could be made would be to permit changes of direction only at the summits of grades or at certain stated block intervals.

161. Computed positions.

Assuming this to be done from the evidence of the present measurements of the survey, the positions of the centres of all street intersections and the directions of all street lines would be computed, and from this data would follow the second part of the problem, the definition and description of the blocks.

The building and curb lines would be defined as parallels to the street axis to obtain streets of uniform and regular width, and their intersections would have to be computed as definite positions by co-ordinates to become records for all time of the position of the accepted building and curb corners of the city. 162. Building and curb lines.

From these positions or fixed points the length and bearings or metes and bounds and areas of each block would be computed and become matters of record, and finally, after the adjustment and definition of blocks and building lines, would follow the definition and adjustment of properties and house lots in each block. 163. Dimensions of blocks.

The work of the Property Division now being carried on affords definite means of solution of the problems mentioned, but until these have been solved and carried out it cannot be expected that the full scope and value of the adoption of the standard meridian and of precise and uniform methods of surveying and of a uniform standard of length will be fully appreciated or become adopted for the future. 164. Value of present work.

The general problem of the definition of building lines and streets having been outlined, and supposed to be carried out, it will be found that encroachments of all kinds 165. Positions of buildings.

will occur when the proposed lines are laid down on the official property maps of the city, and the most simple method of securing the adoption of new lines without inflicting injury upon existing buildings will be to require that new buildings to be built on line, old buildings to remain undisturbed until rebuilt.

166. Extension of new streets.

The most important problem of the near future is the extension of the new streets in the Annex or Belt area, of which there would ultimately be about three hundred miles to be graded, paved and built upon.

167. Interest of owners of property.

Even at the present day, before any system has been fully planned out or adopted, the question is being daily asked by interested property owners of how their properties will be affected or cut up by proposed street extensions, and this is precisely the question that cannot be definitely replied to until the plan of streets has been adopted and laid out and the property work of the Belt area perfected and completed.

The work already done has, however, a very important relation to the problems of street extension, especially in the provisions made for future economic and accurate work, and the value of its extension and completion can hardly be overestimated.

168. Use of topographic maps.

There has been completed of the Belt area a topographic map, upon the scale of two hundred feet to one inch, showing five-foot contours over the entire surface, all buildings, roads, fences and improvements presenting in miniature, and as accurately as the work can be scaled, the physical features of the entire area and the existing conditions of improvements.

The provision made to secure the accuracy of this map was precisely similar to that adopted for the control of the property survey, namely, that all the located stations of the traverse and triangulation stations were plotted in advance by their computed positions upon the field sheets and served to prevent accumulative errors of measurement and location of details.

In comparison with work done elsewhere this branch of work may well be said to be unique and superior to any work previously done in this country as to economy, accuracy and detail.

The practical value of the work largely arises from the preservation and utilization of the same series of accurately located stations for the control of the property surveys of the same region, enabling problems of street extensions to be studied, either broadly upon the general maps or in detail upon maps of larger scales.

169. Problems of street extensions.

The first broad question of street extensions does not involve the consideration of small and individual tracts of property, as it is impossible to devise any general plan which will not effect changes in the independent developments already projected; it deals mainly with the question of the adoption and selection of existing or important highways, whose positions largely depend upon the natural features of the ground and upon lines of most simple development and easiest grades. Nor is it possible to consider any broad general plan of rectangular subdivision as possible in an area so hilly and broken as the Belt. A general study of the entire area is best accomplished from the topographic maps of a system of streets which can be built upon easy grades, and finally that system would be selected which admitted of most economic and practical development, and which would include as far as possible the existing improvements of the area. The general problem of providing streets for the development of a large area admits of no haphazard solution, and no streets are projected which cannot be built and used in practice.

170. Grades of new streets.

The first part of the problem is mainly one of grades, the second the definition and description of these streets and of their intersections with property lines. Here for the first time enters in the necessity for economic

and correct methods of street establishments and of descriptions of property boundaries.

The work already done in the Belt area meets only part of the problem in that only such property boundaries as could be defined have been located by existing landmarks, while the matter involves the correct definition and description of every property line in the entire area.

171. Reference to records.

In this connection, as in the built-up sections of the city, reference to past records will only serve to indicate what should be done, namely, to give the correct lengths and directions of every line in terms of a standard unit of length and a standard meridian.

172. Analytic problems.

With the methods adopted of defining the relative positions of stations and important points by their reference to two fixed axes, the Monument meridian and a due east and west line through that point, it becomes at once possible to apply the laws of co-ordinate or analytical geometry to the solution of many problems, which would otherwise be very intricate.

The entire surface of the city is regarded as projected upon a plane, upon which each straight line is the horizontal projection of the linear or slope measurements actually made.

The actual surface upon which these measurements are projected is that of the earth at sea level, which differs so slightly from a plane in the area under consideration that the positions defined by the adopted rectangular system of co-ordinates are at once convertible into latitude and longitude, or spherical co-ordinates, without sensible error, and in the projection of the maps the measurements are assumed to be projected upon a cone tangent to the earth at the Monument parallel, which, when unwrapped, becomes the developed map of the city without appreciable distortion.

In all problems of analysis of results it is, however, most simple to consider the surface of sea level to be a plane and the Washington Monument as a centre through which two axes pass at right angles.

All problems of straight lines passing through fixed points are then reduced to simple algebraic equations, and the intersection of two straight lines can be computed and located upon the ground from the points already established.

173. Limits of precision adopted.

In the entire system of traverse and triangulation no point is considered as fixed which will not bear the critical test of geometrical proofs of the accuracy of its position, within the practical limits of precision

required, and these are such that in general the position of all points defined by final coordinates are probably within one-tenth of a foot of the truth. This limit of precision has been exceeded in the triangulation, and has probably been attained in all the lines of precise traverse which have fallen within the required limits of closing within one in 15,000. This degree of precision requires that no ordinary error of observation in the use of the best instruments and methods should escape observation, and if it were possible to stretch a steel tape of standard length between two triangulation stations the admissible errors of measurement would be less than the expansion of that tape by a change of temperature of eleven degrees.

Perfection in measurements being unattainable, the endeavor has been made to so far reduce the errors of position of established points that they might become negligable quantities.

174. Economic considerations

In considering all the possible requirements of the future, it will be seen that each additional requirement adds both to the cost of field and office work, and that the best and most economic results can only be attained when several branches of work so closely related as those under consideration are made to serve each other's ends.

The traverse and triangulation systems will naturally serve to greatly diminish the cost and increase the precision of street extensions, provided the necessary connections are made by which new lines may be tested as to the accuracy of their alignment and the positions of their intersections with existing lines. At the same time every connection so made tends to strengthen the positions and to increase the numbers of established locations or stations from which measurements in detail may be located.

175. Surveys for street extensions.

The adoption of the general plan of streets, as outlined upon the topographical maps, will necessarily lead to the selection of suitable points upon the ground for the main lines of development, and in all cases where a large number of streets will depend upon the careful selection and location of important lines methods of precision will be required.

176. Value of property maps

There is no question that, with the completion of the work in hand upon the largest scale adopted, it would be possible to show upon the maps any system whatever of new street lines to the nearest foot, and from these lines to determine with sufficient precision the areas of land required to be condemned.

Such a plan would only meet the problem part way in that it would not provide for

the definition by metes and bounds of such tracts without special surveys in every instance, unless the alternative plan was broadly considered of making all such surveys complete and final upon the general plans outlined for the built-up sections of the city.

In place of a heterogeneous maze of inconsistent records conforming to no uniform standards of measurement, with all the possibilities of future litigation and dispute, it would seem to be essential and of the highest possible value to property owners that the work should be done as a whole and made consistent in all its parts.

177. Additions to present work.

The only details of real importance which can be well added to the present work of the Property Division, namely, of making maps, is to provide for the probable utilization of all measurements of the positions of corners and landmarks by more precise methods or by duplicate measurements.

By far the larger number of measurements taken are of the dimensions of buildings and of other details mainly required to make the maps complete in all details of public and private improvements.

What is essentially required, if the results are to be used in the future for the adjustment and correct definition of property boun-

daries, is that the measurements made to locate existing landmarks and corners should in themselves present indisputable evidence of their correctness, both to the draughtsman and the computor, so that there may exist no room for doubt as to the accuracy of the computed positions of such points.

The complete record of properties required to be condemned for streets can only be ac-acomplished in one of two ways—either by special surveys of every street line and every property crossed, or by the systematic and accurate surveys of the area as a whole and the reduction of all property lines to uniform and correct records, and no results of permanent value can be obtained unless modern methods of surveying are adopted.

With the methods suggested, of describing and locating corners by co-ordinates, there is obtained the data not only for giving the metes and bounds of property, but its area, its orientation and its location, which are not included in ordinary land surveying and descriptions.

178. Use of work of Property Division

The present work of the Property Division is to produce the data for constructing maps of large scale, and it has only been necessary to illustrate how far the methods of work now adopted can be made to serve the

ends of the problems of the near future, namely, the revision of past records and the projection of new streets and sub-divisions.

The intimate connection between the various branches of work named shows the importance of the continuance and completion of the present work.

OUTLINE OF THE METHODS OF THE PROPERTY DIVISION.

179. Roanoke Survey.

No reference can be made to the methods and processes adopted for the control of the work of the Property Division and for securing accurate results without giving due credit to Mr. George P. Wood, who, as Assistant Engineer in charge of those branches of work, has brought the work to a very high standard of value in all its details. Guided by the experience gained in the survey of the city of Roanoke, Virginia, many of the methods of work there used were adopted, and have only since been modified or improved to meet the more intricate and difficult problems of the survey of the city of Baltimore.

180. Control established.

The total number and character of stations established to November 15, 1894, for the control of the work in detail is as follows:

18 Primary triangulation stations.
98 Secondary.
148 Stations established by triangulation from traverse bases.
2599 Traverse stations.
993 Temporary stations for details.

3856 Stations.

181. Plumbob traverses.

Of these the triangulation stations are mainly used to control traverses, and the traverse stations to control the measurements in detail and minor or plumbob traverses. The latter, or plumbob traverses, are established lines of traverse of a different order of precision, the allowable errors being one in 5,000 of their length.

Even this degree of precision is greater than that attained in engineering surveys and by surveyors, being ten times more accurate than the work required upon the Ordnance Survey of Great Britain with a surveyor's chain.

182. Methods Ordnance Survey.

The methods of field work adopted in Great Britain to secure the information from which the maps of the largest scale are published, differ radically in every particular from those adopted in the survey of the city of Baltimore to obtain apparently the same results. The differences are in the main due to an entirely different system of land

description—in this country—which requires the description of land to be made by metes and bounds, rather than by areas, and the definition of its boundaries as they exist upon the ground.

183. Linear surveys with a chain.

With the common surveyor's chain alone, and with the method of measuring the sides of triangles, and other rigid figures, and of taking offsets to irregular lines, the surveyor in England is able to measure the areas of properties within one-tenth of one per cent. of the truth, whereas, under the American system of locating boundaries of property and of depending upon the compass for bearings of boundary lines, errors of as much as ten per cent. are not uncommon in erroneous descriptions.

184. Methods of property division.

The methods of surveying adopted by the topographical survey of the city of Baltimore differ from both the ancient linear surveys of area and traverse surveys of boundaries, and include mainly the accurate locations of positions or boundary corners, from which both the areas and metes and bounds of properties may be computed.

185 Legal value of maps.

The cadastral or property maps of Great Britain are accepted in courts of law as authoritative in all questions of property and legal boundaries and areas, and it is to be hoped that this will be the case with the

maps of the survey of the city of Baltimore, as the means adopted to secure their precision are the best that modern appliances can give.

A very great difficulty which has to be met is that of providing for the accurate location and establishment of disputed and uncertain boundary lines upon the evidence of erroneous descriptions. At present the work has been confined to the location and description of all public and private improvements, and of such landmarks and boundaries as can be traced or discovered under existing conditions.

186. Details of survey.

These include in the surveys of private properties—fences, bridges, walls, ditches and all existing dividing lines; the ground plans, dimensions and location of all buildings, including character of materials, number of stories, ownership, house and block numbers; and in streets and roads, widths, character of paving, curb and building lines, lamp-posts, shade-trees, electric and telegraph poles, lines of street railways and their character, whether cable, electric or horse, drains, sewer-inlets, gutters, showing flow of water, fire-plugs and all other details of public or private importance capable of being shown or represented by symbol upon a map of the largest scale.

187. Control of work.

The built-up sections of the city have been sub-divided by precise traverse lines into closed figures of about six or eight acres, upon the sides of which are located points or stations permanently marked by suitable monuments and numbered and referenced for use. The co-ordinates or positions of all these stations are accurately computed, together with their distances apart and the bearings or azimuths of the lines of measurement. In every square mile so far sub-divided in the built-up sections of the city there have been not less than 300 such points and about 90,000 feet of measured lines of the highest order of precision.

188. Detail sheets.

For the work in the city these points are projected upon detail sheets, generally covering about one block in area, which are sent into the field for the filling in of details.

The number of points upon a field sheet do not in general suffice for the location of all the details, especially where the alleys in blocks are irregular and additional lines of secondary or plumbob traverse points are established by transit and steel tape-measurements for temporary use. The steel tape-measurements in such work are required to close by calculation upon the precise points by one part in 5,000 of their length, and the tape is held horizontally and up to a plumb-line as in ordinary surveying practice.

189. Detail measurements

The details of the field sheets are filled in by the measurement of the angular bearings or directions of and of distances by tape, and are plotted and recorded upon the field sheets upon a scale of twenty feet to one inch.

All other dimensions of buildings, with their offsets and irregularities, the widths and depths of buildings and of lots and outbuildings, widths of streets and pavements and locations of objects on straight lines, are measured with steel tapes, and plotted upon the field sheets.

The omission of measurements necessary for the correct plotting of details rarely occurs, owing to the necessity of having a sufficient number of measurements taken for actual plotting, but it sometimes occurs that the record is not complete upon the field sheet of all dimensions measured. If such record is omitted from the note books, a revision in the field is necessary before the maps can be correctly replotted.

190. Improvements made.

Improvements have steadily been made in many of the minor details of plotting and recording field notes, in the methods of observing angles or directions and in the precautions taken to secure complete and accurate information.

The points of greatest importance in the work of the future, are the absolute locations of all existing landmarks by independent or duplicate measurements.

Out of the large number of angles and distances measured, a small number at every station will require especial attention and accuracy, and these are confined to the points which locate the positions of boundary lines and corners. These are the measurements from which such lines and positions would be computed in distinction to the measurements which are solely required for mapping.

191. Boundary surveys.

The location of boundary stones alone has been done in the case of large tracts, such as the Garrett estate and the Clifton properties, forming a series of special surveys by the Property Division aside from the location of details for mapping; but in general a very large number of undisputed boundary marks may be found on every detailed property sheet, and to meet the full needs of future work these are the measurements which require especial attention and which are most likely to be overlooked.

192. General value of maps.

In every detail as to improvements of all kinds and as to the elevations, grades and directions of streets, the maps of the topographical survey will be found superior to any yet made in this country, and will serve

every practical purpose for the study of municipal and engineering improvements for tax valuation, for the measurement of areas within less than one-tenth of one per cent. and for every other purpose for which accurate maps can be used.

The block maps made in the field upon the scale of twenty feet to one inch are accompanied by record books of all measurements taken, and, together, present complete information for the construction of maps for publication.

193. Property maps for publication.

The scale of the latter has been made forty feet to one inch, and six blocks or detailed sheets are compiled to form one record sheet for publication, covering an area of two blocks north and south by three blocks east and west. These sheets do not contain the direction and distance measurements from which the important details are located, but are plotted from the field notes, and give the dimensions of every building and lot, the widths between existing building and curb lines, and all the minor details called for to render them complete. The block numbers, corresponding to those of the tax record, are used on these maps. They may be relied upon for measurements not recorded to the nearest foot or one fortieth of an inch, which is about the full limit to the use of scale measurements from any map which has been printed or drawn upon paper.

194. Detail sheets of Baltimore.

The scale of forty feet to one inch has largely been used in the Belt area for the detail sheets accompanying the one hundred feet to one inch skeleton maps, wherever measurements are required to be taken in great detail, in the built-up sections.

195. General record maps.

There has also been begun for record an important series of maps upon the scale of forty feet to one inch of all stations and measurements made to locate and establish existing land-marks and boundaries. These maps are ruled into squares by lines two and one-half inches apart, representing parallels and perpendiculars to the Monument meridian at successive intervals of one hundred feet, and from these lines are plotted by co-ordinates the positions of all computed points. The sheets are grouped in series of twenty-four to the square mile or section containing twenty-six and two-third acres in area, or one-quarter by one-sixth mile. Information not precisely located, such as additions from the topographical maps of buildings and fences, boundaries of cultivated areas and woods, are shown upon the maps in distinguishing colors, and the maps are designed to contain full information of all important measurements, so that omissions may be traced up and corrected and new surveys, such as streets, establishments and locations of boundaries, added at any date.

196. Use of record maps. From this series of maps it will be possible to define, with great precision, the areas of tracts required for condemnation and to obtain all measurements in detail to the nearest foot which otherwise could only be obtained by special surveys. These record maps being accurately drawn to scale from the field sheets and notes of every description, and being arranged in regular series, are available for reproduction and reduction by photographic process to other scales.

Four record sheets of the forty to one inch scale are combined to cover the exact area of one map of the one hundred feet to one inch scale, covering one-sixth of one square mile, and six of the latter, when grouped together, form one square mile, or area covered by one topographic record sheet.

197. Skeleton survey. The general skeleton map of the city upon the scale of five hundred feet to one inch is, by similar processes, produced from the photographic reductions and transfers of the details of the topographic sheets.

198. Economic methods. To produce economically maps on different scales, it is as necessary to adopt economic methods and artifices of plotting and reduction of field notes in the office, as it is to limit the amount of information taken in the field to the requirments of the work and scales of maps adopted. The measurements

actually taken to produce the large scale maps of forty feet to one inch are so far in excess of those actually required for smaller scales and become so minute when reduced that they cannot, with economy or accuracy, be used by the draughtsmen for the production of maps of one hundred feet to one inch or smaller scales.

199. Photo reductions.

The most economic results are secured when the field sheets of the Property Division are so well drawn in the first instance that they may, without the additional labor of replotting in every detail, be inked in for photo-reduction or be reduced directly by simple geometrical processes. The office draughtsman is then not required to interpret or study out the methods adopted in the field to secure the locations of detail, but is able to apply other and more simple artifices of drawing for reproducing the maps on any desired scale with any desired amount of elaboration. To secure accurate field sketches or maps in the first instance the measurements should be so taken as to fulfill all necessary geometrical conditions, and this is precisely the result required of measurements when they are needed for computing positions. There is, therefore, far less liability of omissions of measurements being made when the field maps are required to be accurately drawn to scale, owing to the impossibility of drawing an accurate map

without the necessary number of locations of details.

200. Work of Property Division.

Skeleton survey.

The work of the property division has, with the exception of a small area been confined to the built up sections of the city to skeleton or street outline work upon the scale of 100 feet to one inch. To this has been added from time to time the locations of details mentioned in the general sketch of the work of the property division, until finally nearly all details are taken except the location of private buildings and fences, and are plotted upon the scale of 100 feet to one inch upon field sheets covering one-sixth of a square mile.

The maps so made are first of all required for the production and completion of the skeleton map of the entire city, which is being pushed forward to secure the information necessary for the projection of new streets and the study of the sewerage problem.

201. Records of measurements

All of the measurements taken are recorded in special field books, and will be required in the plotting of large scale maps of 40 feet to one inch and for the block maps of 20 feet to one inch, which are taken into the field for filling in the details of buildings, etc.

202. Maps of city of Baltimore.

There will then ultimately exist for the solution of boundary problems and for tax valuation the following maps of the city:

1. Detail sheets of every block in the built up sections of the city, showing the actual measurements taken to locate buildings, boundaries and other details existing at the date of the survey, which in themselves will form invaluable records for settling disputes about the positions of boundaries, and which will serve in addition to locate the positions of stations and points which may be destroyed. 203. Detail sheets.

2. Record maps for reference or publication compiled from the detail sheets containing all the details of the block maps except measurements taken to locate positions upon the scale of 40 feet to one inch, and upon which can be ultimately added the corrected positions of all building and property lines. 204. Record maps for tax valuation.

These will form a series of maps corresponding in character and details to the largest scale maps ever published abroad, and are unique in that character in this country. It will be possible to use these maps with certainty for scale measurements to the nearest foot, both for horizontal distances and elevations, which will be given at all street intersections and changes of grade.

The scale is sufficiently large for the record of all street improvements and for the additions of special information for engineers. The maps may be considered authoritative for land areas within one-tenth of one per

cent., from actual measurements by scale, and will, therefore, be far in advance of ordinary records.

205. Revision of maps. The cost of maintenance of the maps to supply information to date will be comparatively small if proper steps are taken to preserve from destruction the important monuments and bench marks from which all details are located and measured, as in the future all additions can be made without difficulty or expensive processes of surveying by the free and intelligent use of the established points of the topographical survey.

206. Skeleton survey, 100 ft. scale. 3. There will exist the series of skeleton maps of the city upon the scale of one hundred feet to one inch, which form the base of the topographic maps of the built-up sections of the city.

These maps will be most useful to real estate agents and property-owners as indexes and guides to the location of buildings and lots.

4. The field sheets of the topographic division.

207. Photographic series. 5. The general topographic maps of the entire city, published in sheets covering one square mile, containing general information of the most valuable kind of the condition

of improvements and projected developments of the city.

These are essentially the maps of greatest public value for the study of all general problems, such as street extensions, grades, drainage and improvements of all kinds.

Provision has been made for their continual improvement and correction at small cost to the city in the establishment for reference and use of the precise system of well-located bench-marks and stations.

6. There will exist the general or skeleton map of the entire city, scale five hundred feet to an inch, compiled from the complete results of the whole work, which will contain all street and alley lines, roads, contours, parks, public buildings, railroads, sewers, streams, docks, etc., and will be a complete map of the city of Baltimore as a whole, free from the errors of past records. 208. General map.

The work will bear most critical examination in all its details and will be found to compare most favorably in accuracy, completeness and economy with any similar work done either in this country or abroad.

Respectfully submitted,

JOSIAH PIERCE, Jr.,

Principal Assistant-Engineer.

REPORT OF

MR. G. P. WOOD, Ass't Engineer,

IN CHARGE OF

TRIANGULATION, TRAVERSE and PROPERTY DIVISIONS.

TOPOGRAPHICAL SURVEY—CITY OF BALTIMORE,

BALTIMORE, December 13, 1894.

COL. H. T. DOUGLAS, *Chief Engineer:*

DEAR SIR:

In accordance with your instructions, I beg to submit a report of the operations embraced in the Triangulation and Property Divisions of the Topographical Survey of the City of Baltimore to December 1, 1894.

ORGANIZATION.

The work of the Divisions has been done by small parties, each working under the direction of an assistant engineer. The parties have generally been composed of one Assistant Engineer in charge of party, one observer or recorder, two tapemen or rodmen, and one axeman. On triangulation work the number of rodmen has been such as to meet special requirements. On some branches of the property work an additional recorder has been required.

The Assistant Engineers in charge of parties were made responsible for the proper management of the party, and for the accuracy and completeness of the work done by it. Each Assistant was made responsible for the care of instruments and tools while in his possession. Nine and one-half hours' service each working day has been required of all Assistants.

In the beginning most of the Assistants were not familiar with the methods of the special work required. To good discipline, faithful performance of duty, and especially to the energy and care of the Assistant Engineers, the high efficiency attained by the Division is in a great measure due.

EQUIPMENT.

The instruments used were: Fauth Transits No. 667 and No. 839, Buff & Berger Transit No. 2033 and Gurley Transit No. 153. Each has a level attached to the telescope. Fauth Transit No. 667 has verniers reading to thirty seconds, the others to ten seconds. Fauth Transit No. 839 and Buff & Berger Transit No. 2033 are of the transit theodolite type and were used for the triangulation observations. All were used in the other branches of the work.

Philadelphia level rods and steel transit rods one-half inch octagon and seven feet long, painted red and white in alternate bands, were used.

The tapes used for base and precise traverse measurements were of steel—.0096 feet by .0024 feet by 300 and 100 feet, respectively. These are durable,

light, are very slightly affected by wind and are generally satisfactory for the purpose used. Those used for other purposes were of steel—50 or 100 feet in length, .025 feet by .0007 feet, in boxes, and .04 feet by .0006 feet, on reels; the latter form was found to be most convenient and economical. Standardized thermometers and spring balances have been used for making precise measurements.

Plane table boards and tripods were used for plotting the notes of the skeleton map and property detail work.

Important triangulation stations were generally marked by granite monuments, with a copper bolt for the point. Gas-pipe, one inch by thirty inches or thirty-six inches, was used to mark a large proportion of the precise traverse stations. The thirty, sixty and one hundred foot observation towers were erected by contract. All other work of construction was done by Assistants.

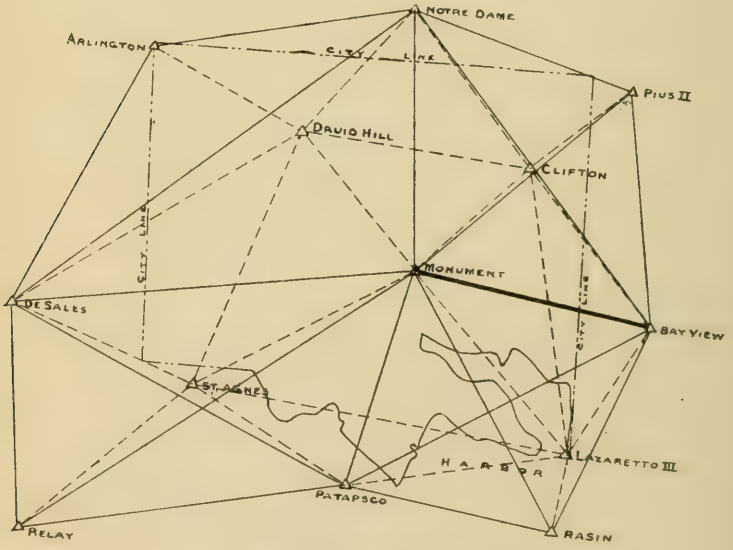
Street cars were generally used as a means of transportation in going to and from work. A horse and wagon was purchased and has been kept until recently for the use of the Divisions.

TRIANGULATION.

The length and direction of the line joining the centre of head of the statue on the Washington Monument and the finial on the dome of the Bay View Asylum, as established by the United States Coast and Geodetic Survey, was accepted by this Survey. The problem of triangulation was, therefore, resolved into the selection of stations and the building up, by angle observation, of a system upon this line as a base.

In the design of a system and methods of observation and reduction, an attempt was made to select stations that would form well-conditioned figures, and to overcome the effect of unstable stations and a charged and variable atmosphere by multiplicity of observations and conditions. The stations were as evenly distributed as the character of the ground and a proper regard for economy would admit. A large proportion of the stations were necessarily elevated. Some observation towers were erected, but in the main existing structures were used. The survey is greatly indebted to the owners of such structures for their use, and to them, and citizens generally, for their good treatment of assistants while conducting the work.

The primary system has nearly ideal conditions for adjustment. It is composed of thirteen stations, arranged as in the following scale diagram:



Scale, 15,000 feet=one inch.

The structures used and the probable elevation of the instrument above the surface of the ground were as follows:

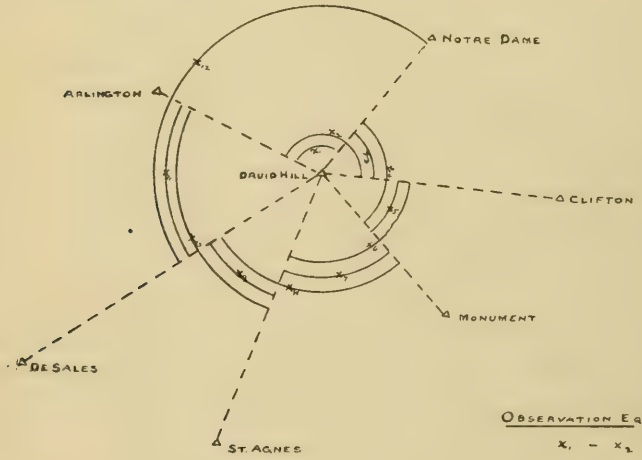
	Height.
△ Arlington—Lattice tower, 100 feet, with extension	123 feet.
△ Bay View—Cupola on dome of Bay View Asylum	160 "
△ Clifton—Tower of Clifton Mansion	70 "
△ De Sales—Cupola on Convent of Mount De Sales	75 "
△ Druid Hill—Lattice tower, 60 feet, with extension	77 "
△ Lazaretto III.—Lattice tower	65 "
△ Monument—Upper landing Washington Monument	165 "
△ Notre Dame—Tower on Convent of Notre Dame	140 "
△ Patapsco—Lattice tower	35 "
△ Pius II.—Cupola on Dr. Course's house	50 "
△ Rasin—Lattice tower	11 "
△ Relay—Lattice tower	8 "
△ St. Agnes—Brick tower on St. Agnes' Hospital	75 "

The towers were built in accordance with the plans approved by the Chief Engineer. All observations have been made with instruments mounted upon tripods.

The angles were observed by the repeating method. The observing was done by Assistants Sproul and Wheeler. Each Assistant observed two sets of five

repetitions, direct and reverse, of all the single and double angles, with the exception of △ Monument, where a part of Assistant Wheeler's results were furnished by Assistant Sproul. The amount of observations at △ Arlington and △ Druid Hill was doubled, on account of the very high towers at those stations. An attempt was made to observe over the line △ Monument, △ Arlington, but trees prevented.

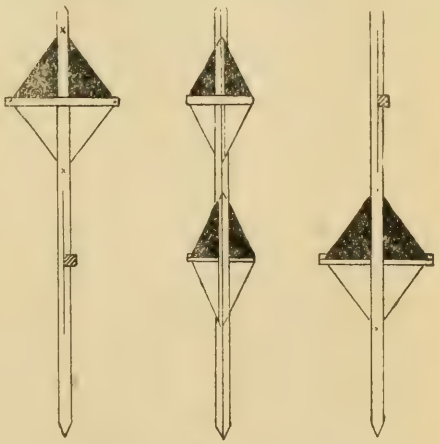
The system of observation and method of making up the conditional equations is indicated below. The results of the two observers were combined, and this system was carried out strictly at each of the stations or eccentrics, in all eighteen. This means that 832 sets, equivalent to 8,320 simple angles, were used in the reductions.



OBSERVATION EQUATIONS

$$x_1 - x_2 + x_3 = 0$$
$$x_3 - x_4 + x_5 = 0$$
$$x_5 - x_6 + x_7 = 0$$
$$x_7 - x_8 + x_9 = 0$$
$$x_9 - x_{10} + x_{11} = 0$$
$$x_{11} - x_{12} + x_1 = 0$$
$$x_1 + x_3 + x_5 + x_7 + x_9 + x_{11} - 360^\circ = 0$$

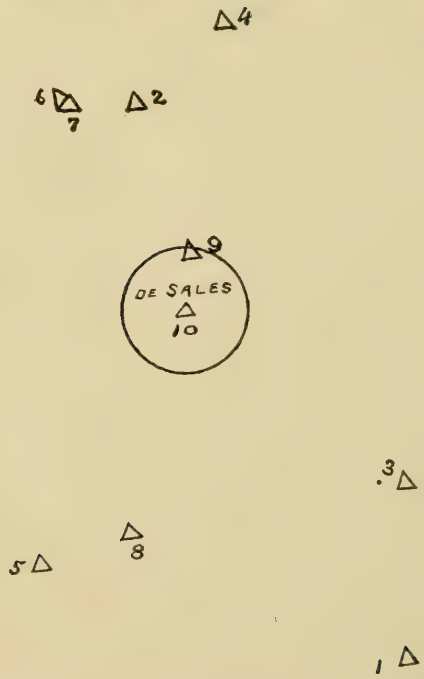
The head of statue on the Washington Monument, the crosses on the convents of Mt. De Sales and Notre Dame, the vane at Clifton Mansion and the finials at Bay View Asylum and Dr. Course's residence were observed. Cloth targets were used at the other stations. Artificial backgrounds of white cloth were used in several instances. Red and white cloths were used for the targets. As the observations of the two Assistants were made independently and at different times of the day, it is not likely the question of phase has entered into the mean results to any great extent.



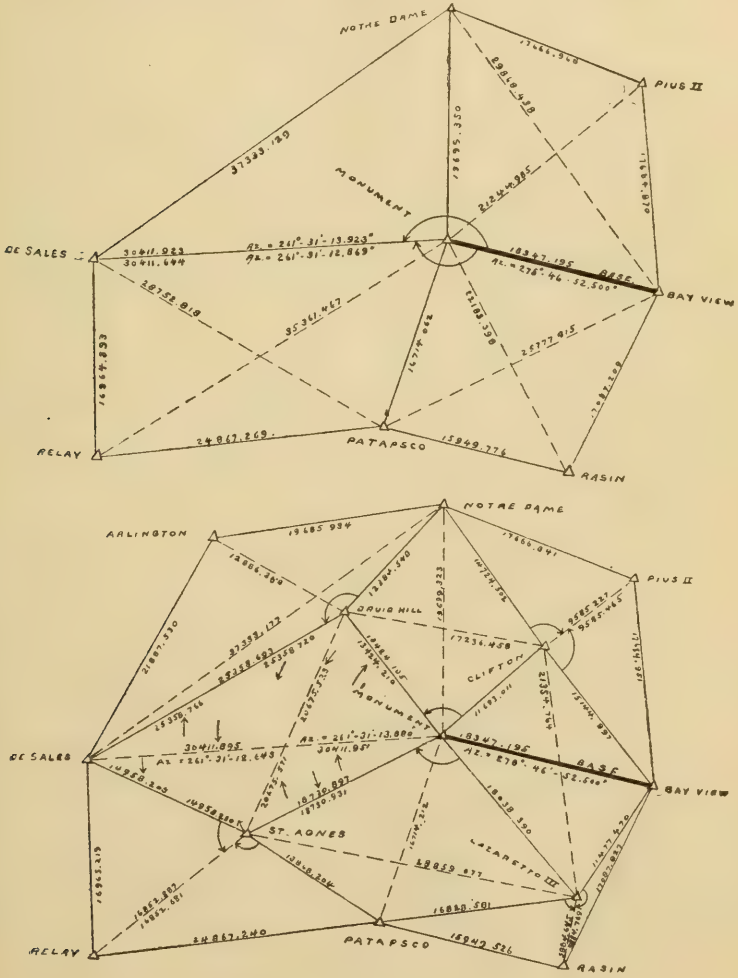
An inexpensive and very satisfactory form of target was devised and used. This is shown in the adjoining sketch in three positions. The frame is considerably exaggerated to show how it is constructed. The pole is a piece of white pine 1½x1 inches by 7 feet, with ends turned and two saw cuts through centre, as indicated. The cross pieces are 1½x1½ inches by 2 feet 8 inches, cut in the middle to fit half over the upright, the face coming out even with the saw cut. Copper wire is run through the saw cut and fastened at its ends and at the ends of the cross pieces, as indicated. The cloth is run through the saw cuts and fastened to the wire and cross pieces.

The rigid least square station and quadrilateral figure adjustment was applied, and the length of sides and rectangular co-ordinates of the stations computed. (This was done by Mr. C. H. Rice, of the Computing Division, and hence is not included in this report except as a means of showing the degree of precision attained).

In the diagram below, the position of △ De Sales is shown to natural scale as computed in nine partially independent ways. The position marked 10 is the mean of the others. The radius of the circle = .028 feet about this position is the probable error of this mean, the positions being considered independent.



The following diagrams show the lengths of lines as computed through independent systems of figures. The adjustments and computations are entirely independent after the station adjustment. The most severe test is shown by the four azimuths and lengths of the line △ Monument—△ De Sales.



Work on the primary system was begun June 15, 1893, and was completed about January 1, 1894. The observations were much delayed and many were rejected on account of the smoke and general bad condition of the atmosphere. Other work was carried along with this, so there was little actual loss of time.

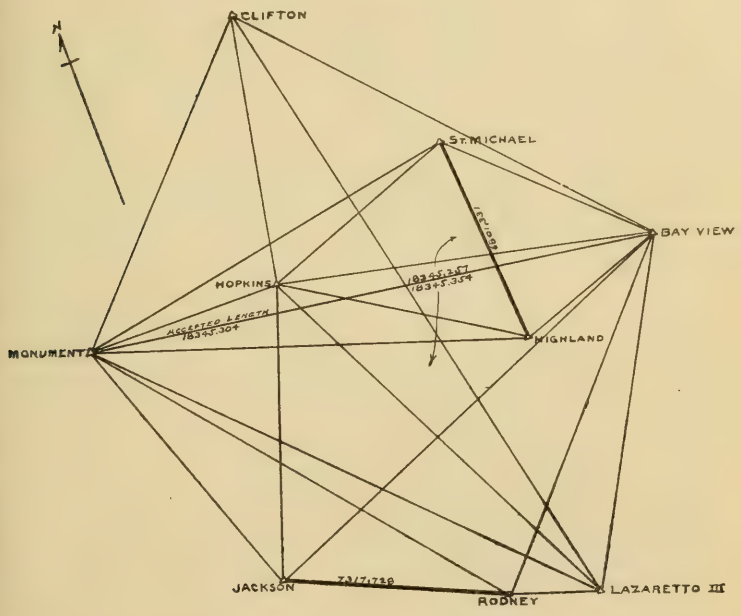
BASE MEASUREMENT.

The apparent and very general disagreement between the triangulation and precise traverse distances brought about some direct comparisons of the two. The methods of traverse measurement were investigated experimentally, but not finding sufficient reason for the disagreement, the Fort-Avenue and Highland-Avenue Base Lines were then selected and measured, as described in the following detailed reports made to the Chief Engineer at the time. The four parties, of which the Divisions were then composed, participated in these measurements. The work will rank with the best of its kind in point of precision, economy and speed. As a result a correction of 1 in 9,680 has been applied to all triangulation distances.

As a means of making primary connection with these base lines, five new stations, namely, △ Jackson, △ Rodney, △ Hopkins, △ Highland and △ St. Michael were combined with stations △ Monument, △ Clifton, △ Bay View and △ Lazaretto III, to form the system indicated by the following diagram. The method of observation and adjustment of this system was precisely the same as that of the primary system. The

angle observations were made by Assistants Sproul and Morgan of Party No. 1. The degree of precision attained is best shown by the two lengths of the line △ Monument—△ Bay View, obtained from the independent bases, which agree, as shown on the diagram, within .097 feet.

CLIFTON.



Ninety secondary and fourteen tertiary triangulation stations were established. The relative location and system for establishing the position of these is well shown upon the accompanying diagram. This number does not include the tertiary triangulation

based on precise traverse lines. Secondary and tertiary observations were not made with the intention of making a station adjustment, except to make the sum of the angles about the station equal 360 degrees, or to agree with the adjusted primary angles. Two sets of five repetitions, direct and reverse, for secondary, and two sets of three repetitions, direct and reverse, for tertiary, equivalent to twenty and twelve simple turns of the angle, respectively, were required. The probable error in the computed mean position of the stations, after all station and figure adjustments, will not much exceed that of primary stations.

The work of triangulation, in addition to reconnoissance and management, may be summarized as follows:

	Name of Assistant: Sproul.	Wheeler.	Total.
Referencing 122 stations and 108 eccentrics and transfer points.	180	50	230
Erecting and guarding towers, targets, signals, etc., requiring constant attention, and of which no estimate can be made of much value			
Observing 3,697 sets of angles of five repetitions direct and reverse, 218 sets of three repetitions, and 138 sets of two repetitions direct and reverse; also 170 simple angles and 220 azimuths, equivalent to a total of 39,220 simple angles.....	29,320	9,900	39,220

PRECISE TRAVERSE WORK.

For use in the Topographical and Property surveys of the city, the triangulation system has been supplemented by a system of precise traverse stations. These stations have been established by the measurement of angles and distances by precise methods, the allowable error of closure of traverses being $\frac{1}{15,000} \times$ length + .04 feet. 2,595 precise traverse stations were established by these Divisions. Some of these stations are marked by copper tacks in stakes driven flush with the surface of the ground, others by nails in the centre of asphalt tiles, buried a little beneath the surface. But the vast majority of them are marked by a cross on the top of a one-inch gas pipe driven flush with the surface, a cross on granite curbing, or a spike driven in the sidewalk. To aid in finding the stations a sketch was made showing the location and the distance to two or more well-defined objects in the vicinity. The material used is noted, and, in some cases, azimuths have been used in referencing. The stations are numbered consecutively.

The repeating method was used for observing a complete round of angles at each station, except intermediate stations set at alleys and cross streets, which are ranged in by foresights. Three repetitions, direct and reverse, has been the general practice. For use of the topographers, azimuths are observed to prominent objects, such as spires, cupolas, etc. Azimuths of traverse lines are observed as a check and for convenience in plotting. The distances are measured with 100-feet steel tapes under a tension of 15 pounds, the relative elevations of all tape supports and the

temperature being observed. The length of tape is assumed to be the same under the ordinary conditions of its use, as with a tension of 12 pounds, when the tape is supported its entire length. Recent tests have indicated that a higher degree of precision may be attained by applying a minus correction for an interval between supports of 70 feet or more and a plus correction for sunshine or lag of thermometers. The notes are reduced and all corrections applied in the field and are sent to the office in abstract form.

The precise traverse system used here differs but slightly from the skeleton system used quite extensively in the Official Survey of Roanoke, Va. A tension of 16 pounds was used there and all angles were repeated twice. The reduction and copying of notes was done by the office force and the limit of allowable error of closure was $\frac{1}{10,000}$ of the length. The higher ratio with a constant is a decided improvement, as the lengths of traverses are quite variable.

In the unbuilt sections of the city stations were established only near enough together to form a strong base for topography. In the built-up portions of the city the stations have been placed much nearer together and form the base for the property detail work.

The following table indicates the amount of precise traverse work done by each party. It may be noted that Assistant Sproul repeated most of his angles twice; that a considerable amount of his work was on tertiary triangulation on measured bases, and that he did not measure any lines at first, this part of the

work being done by Assistant Wheeler. In short, the true proportions of the different branches of the work are only indicated by the totals. The work is also indicated by the full, heavy lines on the accompanying diagram.

Assistant Engineer.	Number Stations Put in and Referenced.	Azimuths.		Angles.		Distances.			
		Number Observed.	Number Per Station.	Number Observed.	Number Per Station.	Number Measured.	Average Length.	Total Length.	Average Length Per Station.
A. A. Sproul, Jr.	472	1194	2.5	1731	3.7	370	522	193,100	409
E. B. Wheeler	358	314	0.9	758	2.1	574	629	361,260	1009
J. R. Downman	1140	1465	1.3	2177	1.9	1863	359	669,627	587
R. A. MacGregor	358	338	0.9	616	1.7	397	312	123,936	346
Percy Davidson	8	13	1.6	24	3.0	9	624	5,614	702
Charles Goldsborough	6	6	1.0	12	2.0	9	470	4,229	705
R. N. Hanna	253	427	1.7	740	2.9	753	341	256,392	1013
Total	2595	3757	1.45	6058	2.33	3975	406	1,614,158	622

LOCATION.

The location of the west boundary line of the City, between the northwest and southwest corners, by precise methods and the setting of permanent marks upon this line, was begun October 16, 1894, and completed in November. A combination of failure to check within the desired limit at first, unfavorable weather, intervening obstructions and the difficulties of resetting the stones has made this work cost more than it would have done under normal conditions. The line is now as good as it is practicable to attain, and the permanent marks have been referenced.

SKELETON MAP AND PROPERTY DETAIL WORK.

The combined triangulation and precise traverse systems form a sound and permanent basis for the several branches of work of the Property Division. At the beginning the work of this Division was not done with entire uniformity. Having passed through the experimental stage in the manner of keeping notes, checking work and the amount of detail necessary, the requirements for the work and methods of meeting them are as follows:

The work is based directly upon the triangulation and precise traverse systems, these being supplemented by short traverses, with a limiting error of closure of 1 in 5,000. These secondary, or plumb-bob, traverse stations are not generally permanent and are not referenced, except as they are very definitely connected with the surrounding details, but are numbered consecutively and have their positions established by azimuths and distances from precise stations. The distances are measured with horizontal steel tapes by the use of plumb-bobs. Points of the required objects are located by measuring their azimuths and distances from traverse stations. From these points the more minute details are measured in, and such other information as is necessary is added. The notes are all kept in books and in general are also plotted in the field with combined scales and protractors upon maps, to a scale of one hundred feet to one inch for the skeleton map work, or forty feet to one inch for the work complete in detail, their purpose being to represent, with accuracy, the existing physical conditions.

The information required for the former branch is the following:

1. The property or building lines on all streets and alleys, as indicated by the evidence on the ground, curb lines, the widths of streets and alleys between curb and between building lines, material with which streets and alleys are paved and their names or numbers.

2. Railroads, bridges and masonry.

3. Sewer inlets and fire-hydrants.

4. The boundaries of parks and cemeteries, with their names.

5. Streams, shore-lines, wharves, piers, bulkheads and Port Warden lines.

6. Public buildings in detail, giving dimensions, number of stories, materials of which constructed, and name or purpose for which used.

This data is being transferred to a map of the entire city on a scale of five hundred feet to one inch.

In addition to the foregoing, the information required for the general or property detail work is the following:

1. The location of the dividing lines between properties, as indicated by evidence obtained in the field, dimensions of properties and name of owner.

2. The ground plan of all private buildings, with dimensions, number of stories, material of which constructed, condition, frontage on street, official city number and purpose for which used.

3. The location of all fence and other boundary lines.

4. The names and widths of all streets between curb and between building lines, material with which paved, gutter lines and direction of flow of water, gutter-plates, culverts, sewer inlets, man-holes, electric poles and street lights.

The property maps are being prepared on a scale of 40 feet to one inch, and the block numbers made to correspond to those of the tax record in use by the city government.

The skeleton map work in the old city has been done over an area of about 1,440 acres, situated south of North avenue east of Charles street.

The general property detail work has been done over an area of 2,486 acres. This was mainly in the northeast belt area. In the case of properties having large areas in the Annex, the boundaries were taken, omitting the interior details.

Mention should be made of the gentlemen who, as Assistant Engineers in charge of parties, have been directly responsible for the work. Of these Mr. A. A.

Sproul, Jr., on a large proportion of triangulation, base line, location and precise traverse work, has made a record to which he may always refer with pride. The same may be said of Mr. J. R. Downman on base line, precise traverse and property work. Along these latter lines Mr. R. N. Hanna during a shorter period has made a fine record. Mr. R. A. MacGregor did most excellent work during the short time he was on precise traverse and property work; Mr. E. B. Wheeler on triangulation, precise traverse and property work; Mr. C. Billopp on base line and property work, and Mr. Charles Goldsborough on property and precise traverse work, did some good work. Others who were members of these Divisions but a short time were Mr. Percy Davidson, on precise traverse, Mr. W. R. Warfield on property work, and Mr. C. Whiteley, Jr., on location and property work. As the artist stamps upon the product of his genius his distinctive character and standing in his calling, out of reach of contemporary opinion; so the Assistants generally, and particularly the Assistant Engineers in charge of parties, have left in the record of their work here the only just estimate of the value of their services to the City. To acknowledge their faithfulness and earnest effort is a simple and very pleasant duty, gladly performed.

Yours respectfully,

GEO. P. WOOD,

Assistant Engineer in Charge of Divisions.

BALTIMORE, MD., August 16, 1894.

COL. H. T. DOUGLAS, *Chief Engineer:*

DEAR SIR:

Wishing to have all the conditions clearly understood, I make you this report of the Fort-Avenue Base measurements in detail. The preparation of the line was made difficult and dangerous by the street cars. To the credit of all the members of the Triangulation and Property Divisions all the work on the line—preliminary, preparation and measurement—has been done accurately, rapidly, without accident and cheerfully, despite the excessive effort required for the last day's work. The computations have been made by Mr. C. H. Rice, Assistant Engineer.

Yours respectfully,

GEO. P. WOOD,

Assistant Engineer.

REPORT ON THE FORT AVENUE BASE.

LOCATION.

This base is located near the centre of Fort Avenue, between Jackson street and the fortifications at Fort McHenry. The line is between the tracks of the Baltimore Traction Company, with the exception of the part inside of Fort McHenry. The ends are defined

by marks on copper bolts set with lead in granite stones. The tops of these stones are a little below the surface of the street, which is paved with cobble. The northwest end of the base is known as △Jackson and the southeast end as △Rodney. The base is a side of the quadrilateral △ Monument—△Bayview—△Rodney—△Jackson, which is to be made a part of the primary triangulation system of the City.

INSTRUMENTS AND APPLIANCES.

A three-hundred-foot steel tape, purchased from Messrs. Young & Sons, was used for the measurements. The cross section of this tape is .0096 feet x .0024 feet. To each end of this tape a metallic scale graduated to thousandths of a foot was attached by riveting. The fractional part of a tape length at the end of Base was measured with tape No. 5 and a scale like those used with the three-hundred-foot tape. Tape No. 5 was purchased from Messrs. Keuffel & Esser. The cross section of this tape is .025 feet x .0007 feet. This tape is graduated to hundredths of a foot. The three-hundred-foot tape has a mark each twenty feet, and at each foot for ten feet at each end. One foot at each end is graduated to tenths. These graduations have not been used. The scales were purchased from Messrs. Darling, Brown & Sharp.

The thermometers used were Nos. 21, 22 and 23. These are mercurial thermometers graduated on the Fahrenheit scale. The graduations are coarse, there being a space of about .004 feet for each degree on the scale. These thermometers were compared with those in use at the United States Signal Station in this City, and were found to be very nearly correct.

The spring balances used are small nickel-plated ones graduated to quarter-pounds. The weight of the balance is about four ounces. The scales on these balances are about .009 feet per pound. Nos. 21 and 22 give correct readings. No. 23 gives readings one-quarter pound too large.

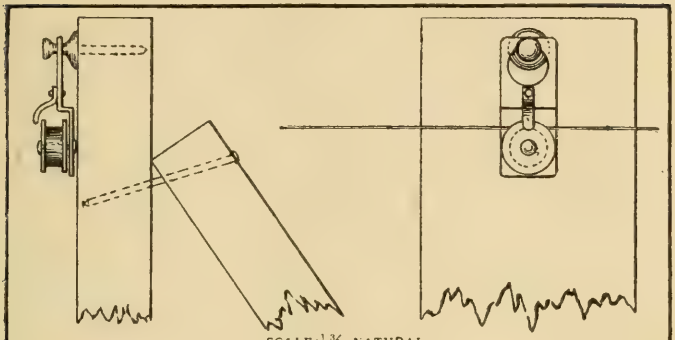
Fauth Level No. 1 was used to check the elevation of the end supports; but most of the instrumental work was done with transits—No. 2033, Buff & Berger; No. 677 and No. 839, Fauth, and No. 153, Gurley.

The tape was stretched by simple screw buckles weighing one-quarter of a pound, the end being held by a piece of gas-pipe set in a post. The tape was supported at intervals of 20 feet on small brass pulleys suspended from the ends of carriage knobs driven in timber supports. At the three-hundred-foot stations pine posts 4x4 inches were used, with the top set .04 feet below the grade line of the tape. A carriage knob was driven in this, the top of which came to grade. A bright scratch was made on this knob at right angles to the base and two other scratches parallel to the base. The portion of the first scratch between the last two defined the 300-foot stations. The posts for stretching were 3x3 inches pine, with a 1-inch hole 8 inches deep in the top. The 20-foot intermediate supports were made of 1x3 inches pine. The knobs were driven .1 foot above grade, that being the distance down to the top of pulley-wheel. These were set on grade with a transit, a constant rod reading being used between 300 foot stations.

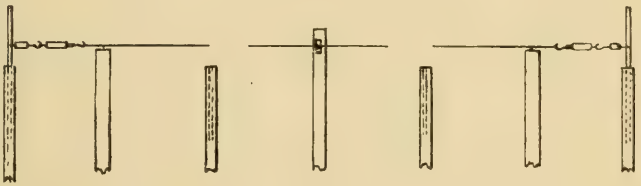
METHOD OF APPLICATION.

The method of application is well explained by the accompanying sketch. A constant pull of 17 pounds

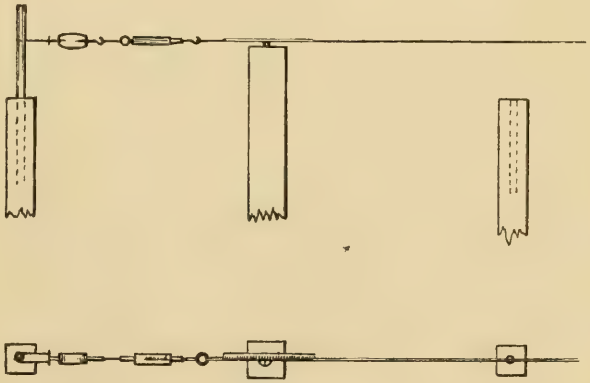
CITY OF BALTIMORE TOPOGRAPHICAL SURVEY.



SCALE: 1 ⅜ NATURAL.



SCALE: 1 IN. = 4 FT.



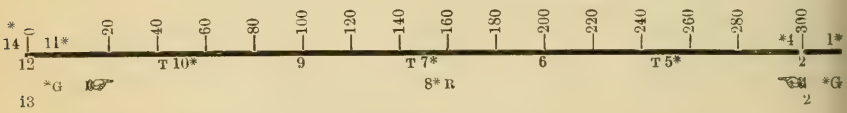
SCALE ¾ NATURAL.

APPLIANCES FOR STRETCHING AND SUPPORTING TAPE AS USED ON FORT AVENUE BASE LINE.

was applied at the forward end of the tape as measured by balances. The stretcher and balance at the rear end were for the purpose of adjusting the approximate middle of scale to the station and to indicate the amount of tension transmitted to the rear end of tape. All being in readiness, the front and rear scales were observed at the same time, the first observers giving way to two others. The front and rear balances were also observed and thermometers at the middle of tape and at points 50 feet from each end. An attempt was made to apply the tension by means of a weight suspended over a pulley. This appliance was found to be unreliable on account of variable friction, before the measurements were begun, and was consequently abandoned.

PROGRAMME OF OBSERVATIONS.

The Base was measured at night. The programme for night work was as follows. The relative position of each Assistant is indicated by the diagram.



The lanterns in the hands of Nos. 1, 5, 7, 10 and 14 are white. The lanterns in the hands of Nos. 4 and 11 are white, with reflectors. The lanterns in the hands of Nos. 2 and 13 are green, for signals, with one side closed. The lantern in the hands of No. 8 is red, for signals. Flags may be substituted for the lanterns used for signals, if work is done in the day time.

Nos. 1, 2 and 3 act under directions of No. 4 } Looking for
Nos. 11, 13 and 14 " " No. 12 } orders to No. 8
Nos. 5, 6, 7, 9 and 10 act under the immediate direction of No. 8.

The tape being in position—when Nos. 3 and 12 are ready to observe, the green lights are turned in direction indicated on the diagram by Nos. 2 and 13. An up and down motion of red light by No. 8 will then be a signal to observe. The word "read" will be repeated by Nos. 2 and 13, so that Nos. 1, 3, 12 and 14 will not need to watch the signal. Nos. 3 and 12 will observe, record and take the lights held by Nos. 4 and 11, while Nos. 4 and 11 observe and record; Nos. 1, 5, 7-10 and 14 will also observe and record, and call atten, tion to any marked change of conditions. Nos. 1 and 14 will observe the spring balances and record. Nos. 3, 4, 11 and 12 observe the scales on ends of tape and record. Nos. 5, 7, and 10 observe the thermometers and record. If the readings of Nos. 4 and 3 or Nos. 12 and 11 agree within a reasonable amount, Nos. 2 or 13 will wave the green lights at right angles to the line until a signal is given by No. 8. If they do not agree, Nos. 2 or 13 will give their lights an up and down motion until No. 8 gives a signal to observe, when all observations will be repeated. If the observations do not agree in point of time, No. 8 will call upon those who complete their observations first, to check them.

Nos. 5, 7 and 10 will call out their readings as soon as recorded in the order Nos. 5, 7, 10, that any marked difference in temperature may be investigated at once. It will be the duty of each assistant

to call attention to any source of error that may appear. In case of an agreement of observations, No. 8 will wave his lantern at right angles to the line as a signal to move forward. The word "forward" will be repeated by Nos. 2 and 13, as all observers are expected to keep a constant watch until that order is given. Nos. 1 and 2 will then hand their lights to No. 4 to be carried forward. Nos. 1 and 2 will take the balance and stretcher forward and put them in position at the next station as quickly as possible. No. 3 will pull the tape forward as soon as it has been entirely detached. The tape is not to be pulled by any one but No. 3, as it might be over-strained. No. 4 will go forward to see to the arrangements for stretching. No. 5 will carry his thermometer, but leave his light. He detaches the hook at 260, slides it to 280, detaches that hook and carries the two hooks and tape forward When he arrives at the next 280 support he will put the hooks in position and move back to his position for observation, where he will receive his light from No. 6. No. 6 will take hooks 200, 220 and 240 and the light of No. 5 forward, attach hooks, etc. No. 7 will leave his light for No. 9 and take hooks 160 and 180, etc. No. 9 will take hooks 100, 120 and 140 and light of No. 7, etc. No. 10 will leave light and take hooks 60 and 80, etc. No. 13 will hand light to No. 12 and take hooks 20 and 40 and light of No. 10, etc. No. 14 will hand light to No. 12, and detaching tape, move forward quickly to get ready for the next measurement with stretcher, balance, etc. No. 11 will carry end of tape. No. 12 will go forward and see to arrangements for stretching, etc. No. 8 will go forward, keeping a general watch of the whole work, and especial watch over the tape supports.

Quiet is necessary that orders may be understood Nos. 2 and 13 should speak only loud enough for Nos. 1, 3 and 4 or Nos. 11, 12 and 14 to hear. No. 8 gave verbal orders in addition to the signals. This made the observations more nearly simultaneous than they would otherwise have been.

Quite a saving in time would be accomplished by adding two assistants, "a" and "b." The following changes in the programme would be made: Nos. 5, 7 and 10 would keep their lights and take only the supports at 260, 160 and 60 respectively. No. 2 would take the hook at 280, and keep his lights, No. 4 going forward at once in his stead. "a" would be stationed at 220 and attend to hooks 220 and 240. No. 6 would be stationed at 180 and attend to hooks 180 and 200. "b" would be stationed at 120 and attend to hooks 120 and 140. No. 9 would be stationed at 80 and attend to hooks 80 and 100.

The measurements were made by the following Assistants:—No. 1, Kefauver; No. 2, Disney; No. 3, Morgan; No. 4, Sproul; No. 5, Billopp; No. 6, Reddington; No. 7, Glocker; No. 8, Wood; No. 9, Williams; No. 10, Hanna; No. 11, Rogers; No. 12, Downman; No. 13, Bansemer and Wagner; No. 14, Gilmor.

LENGTH OF TAPES.

The length of the long tape under the approximate conditions of its use on the Fort-Avenue Base was determined by comparison with the Mt. Royal Standard (measured by the United States Coast and Geodetic Survey, for use as the Standard of this Survey).

For this purpose three distances were measured in both directions, viz.: ⊙2773 to ⊙2777, ⊙2775 to ⊙2778 and ⊙2776 to ⊙2779. Two observations of each were made on the night of August 10. Of these, one had to be thrown out as unreliable, there being a large discrepancy in the length, and the rear balance indicated that the tape was not free in the supports. (This defect was made apparent many times after this, and the trouble being removed the readings were repeated. The advantage of a balance at the rear end was very forcibly demonstrated in this way). The conditions of temperature, etc., were nearly identical with the conditions on the Fort-Avenue Base, which was measured during the same night. The length of tape was again determined on the morning of August 13. The weather conditions were then quite different. The results agree closely among themselves, but do not agree with those of the preceding determination. Thirteen measurements were made upon this occasion. The difference is apparently due to a permanent elongation of the tape, to an erroneous co-efficient of expansion, or to the different effect of light, moisture, etc., upon the tape and thermometers. The close agreement of results on the Fort-Avenue Base makes the first improbable. More tests at night when the Highland-Avenue Base is measured will probably determine to what cause the difference is due.

In the computations, all distances between stations on the Mount Royal Standard, as given by the United States Coast and Geodetic Survey, are accepted as absolute. The co-efficient of expansion is assumed to be .000006 for one degree F. All refer to a temperature of sixty-two degrees F.

Under these conditions, the following results are obtained:

1. *Mean of all Determinations* (24).

Length of tape between extreme ends of graduated scales = 300.5147′

Probable error
of a single observation = .002′ or about 1 in 150,000
Probable error
of the mean = .0004′ " 1 in 750,000

2. *Mean of 1st Determinations* (10), (1 *Rejected* by Prof. Pierce's Criterion.)

Length of tape between extreme ends of graduated scales = 300.5131′

Probable error
of a single observation = .0010′ or about 1 in 300,000
Probable error
of the mean = .0003′ " 1 in 1,000,000

3. *Mean of 2d Determinations* (11), (2 *Rejected* by Prof. Pierce's Criterion.)

Length of tape between extreme ends of graduated scales = 300.5173′

Probable error
of a single observation = .0010′ or about 1 in 300,000
Probable error
of the mean = .0003′ " 1 in 1,000,000

MT. ROYAL STANDARD RECORD.

Station.	Elevation.	OBSERVERS.									Elevation.	Station.
		AT REAR END.			TEMPERATURE AT			AT FRONT END.				
		Spr.B.	Scale.		50′	150′	250′	Scale.		Spr.B		
		*H. Gilmor. *22.	Downman.	Rogers.	*Hanna. *23	*Glocker. *22	Billopp. 21*	Sproul.	Morgan.	*Kefauver. *21		
⊙2773	113.9504	16.5	.2525	.2525	63	62	65	.7490	.7480	17.0	116.0489	⊙2777
⊙2775	114.6420	9.75	.2950	.2950	63	64	65	.8190	.8190	17.0	116.7548	⊙2778
⊙2776	115.3556	16.5	.2410	.2410	64	64	66	.7130	.7140	17.0	117.4544	⊙2779
⊙2779	117.4544	16.75	.2010	.2010	64	65	66	.6730	.6720	17.0	115.3556	⊙2776
⊙2778	116.7548	17.0	.2005	.2005	65	65	67	.7050	.7050	17.0	114.6420	⊙2775
⊙2777	116.0489	17.0	.2145	.2145	65	65	65	.7090	.7080	17.0	113.9504	⊙2773
⊙2773	113.9504	16.75	.2125	.2130	64	64	65	.7090	.7090	17.0	116.0489	⊙2777
⊙2775	114.6420	17.5	.2700	.2700	64	64	65	.7740	.7740	17.0	116.7548	⊙2778
⊙2776	115.3556	17.0	.2530	.2540	64	64	65	.7250	.7250	17.0	117.4544	⊙2779
⊙2779	117.4544	16.75	.2500	.2500	64	64	63	.7220	.7220	17 0	115 3556	⊙2776
⊙2778	116.7548	16.50	.2500	.2500	64	64	64	.7550	.7550	17.0	114.6420	⊙2775
⊙2777	116.0489	16.0	.2700	.2700	64	64	65	.7680	.7670	17.0	113.9504	⊙2773

10.30—12.00 P.M., August 10, 1894.

All measurements between ⊙2773 and ⊙2777, and reverse, of little weight on account of tape not being entirely suspended between ⊙2773 and ⊙2775, viz, counting from ⊙2773 between 0′–40′ and 80′–140′.

Weather clear, with a light breeze. Party began work on this.

MT. ROYAL STANDARD RECORD.

Station.	Elevation.	OBSERVERS. AT REAR END. Spr.B.	Scale.		TEMPERATURE AT 50′	150′	250′	AT FRONT END. Scale.		Spr B	Elevation.	Station.
		*Gilmor. *23	Downman.	Rogers.	*Hanna. *23	*Glocker. *22	*Billopp. *21	Sproul.	Morgan.	*Kefauver. *21		
⊙2773	113.9504	16.5	.1710	.1710	72	70	71	.6510	.6520	17	116.0489	⊙2777
⊙2775	114.6420	16.0	.2440	.2445	71	69	70	.7375	.7380	17	116.7548	⊙2778
⊙2776	115.3556	16.75	.2390	.2390	71	68	69	.6990	.6990	17	117.4544	⊙2779
⊙2779	117.4544	17.5	.1805	.1805	72	70	71	.6370	.6370	17	115.3556	⊙2776
⊙2778	116.7548	17.0	.2140	.2145	71	70	70	.7030	.7025	17	114.6420	⊙2775
⊙2777	116.0489	16.25	.2400	.2400	71	69	69	.7225	.7230	17	113.9504	⊙2773
⊙2773	113.9504	16.25	.1665	.1660	71	69	69	.6480	.6480	17	116.0489	⊙2777
⊙2775	114.6420	17.50	.2190	.2190	71	69	69	.7085	.7085	17	116.7548	⊙2778
⊙2776	115.3556	16.75	.2250	.2250	71	69	69	.6860	.6860	17	117.4544	⊙2779
⊙2779	117.4544	16.75	.2070	.2070	70	70	69	.6640	.6640	17	115.3556	⊙2776
⊙2778	116.7548	17.50	.2040	.2045	70	71	69	.6905	.6900	17	114.6420	⊙2775
⊙2777	116.0489	16.75	.2360	.2360	71	70	69	.7165	.7165	17	113.9504	⊙2773
⊙2775	114.6420	16.50	.2010	.2010	71	70	69	.6935	.6935	17	116.7548	⊙2778

9—10 A.M., August 13, 1894.

All measurements between ⊙2773 and ⊙2777, and reverse, of little weight on account of tape not being entirely suspended between ⊙2773 and ⊙2775, viz., counting from ⊙2773 between 0′–40′ and 80′–140′.

Weather cloudy, no sun, no wind.

COMPARISON OF TAPE WITH MT. ROYAL STANDARD.

The distances as given by the United States Coast and Geodetic Survey between the stations of the Mt. Royal Standard are assumed correct. Reduced to the slope they are ⊙2779—⊙2778=99.9989, ⊙2778—⊙2777=100.0178, ⊙2777—⊙2776=99.9735, ⊙2776—⊙2775=100.0281, ⊙2775—⊙2774=49.9850 and ⊙2774—⊙2773=50.0265. .000006 is assumed as coefficient of expansion.

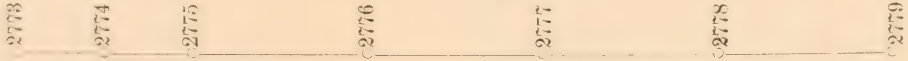
DATE.	STATION. From.	STATION. To.	Rear Scale.	1 Foot Less Front Scale.	Sum of Front and Rear Scales.	Temperature. ○	Tem. Less 62°. ○	Temp. Corrections.	Length as Determined by U. S. C. & G. S.	Length of Tape.	v	v^2
10.30 to 12 P.M., Aug. 10, 1894.	⊙2773	⊙2777	.2525	.2515	.5040	63.3	1.3	—.0023	300.0131	300.5148	1	1
	⊙2775	⊙2778	Thrown	out, tape	hung in	supports.	See last	line.				
	⊙2776	⊙2779	.2410	.2805	.5275	64.7	2.7	—.0049	299.9902	300.5128	19	361
	⊙2779	⊙2776	.2010	.3275	.5285	65 0	3.0	—.0054	299.9902	300.5133	14	196
	⊙2778	⊙2775	.2005	.2950	.4955	65.7	3.7	—.0067	300.0194	300.5082	65	4225
	⊙2777	⊙2773	.2145	.2915	.5060	65.0	3.0	—.0054	300.0131	300.5137	10	100
	⊙2773	⊙2777	.21275	.2910	.50375	64.3	2.3	—.0041	300.0131	300.5127	20	400
	⊙2775	⊙2778	.2700	.2260	.4960	64.3	2.3	—.0041	300.0194	300.5113	34	1156
	⊙2776	⊙2779	.2535	.2750	.5285	64.3	2.3	— 0041	299.9902	300.5146	1	1
	⊙2779	⊙2776	.2500	.2780	.5280	63.7	1.7	— 0031	299.9902	300.5151	4	16
	⊙2778	⊙2775	.2500	.2450	.4950	64.0	2.0	—.0036	300.0194	300.5108	39	1521
	⊙2777	⊙2773	.2700	.2330	.5030	64.3	2.3	—.0041	300.0131	300.5120	27	729
9 to 10 A.M., Aug. 13, 1894.	⊙2773	⊙2777	.1710	.3485	.5195	71.0	9.0	—.0162	300.0131	300.5164	17	289
	⊙2775	⊙2778	.24425	.26225	.5065	70.0	8.0	—.0144	300.0194	300.5115	32	1024
	⊙2776	⊙2779	.2390	.3010	.5400	69.3	7.3	—.0131	299.9902	300.5171	24	576
	⊙2779	⊙2776	.1805	.3630	.5435	70.0	8.0	—.0144	299.9902	300.5193	46	2116
	⊙2778	⊙2775	.21425	.29725	.5115	70.3	8.3	—.0149	300.0194	300.5160	13	169
	⊙2777	⊙2773	.2400	.27725	.51725	69.7	7.7	—.0139	300.0131	300.5164	17	289
	⊙2773	⊙2777	.16625	.3520	.51825	69.7	7.7	—.0139	300.0131	300.5174	27	729
	⊙2775	⊙2778	.2190	.2915	.5105	69.7	7.7	—.0139	300.0194	300.5160	13	166
	⊙2776	⊙2779	.2250	.3140	.5390	69.7	7.7	—.0139	299.9902	300.5153	6	36
	⊙2779	⊙2776	.2070	.3360	.5430	69.7	7.7	—.0139	299.9902	300.5193	46	2119
	⊙2778	⊙2775	.20425	.30975	.5140	70.0	8.0	—.0144	300.0194	300.5190	43	1849
	⊙2777	⊙2773	.2360	.2835	.5195	70.0	8.0	—.0144	300.0131	300.5182	35	1225
	⊙2775	⊙2778	.2010	.3065	.5075	70.0	8.0	—.0144	300.0194	300.5125	22	484
									MEAN,	300.5147		19777

$19777 \div 23 \times 5.242 = 4508$ ∴ none are rejected.

$e = \sqrt{\frac{19777}{23}} = .0029$

$r = .0029 \times .6745 = .0020$ probable error of single observation.

$r_2 = \frac{.0020}{\sqrt{24}} = .0004$ probable error of mean—that is, $\frac{1}{750{,}000}$



Arrangement of Stations on Mt. Royal Standard.

Since the comparisons of the tape with the Mount Royal Standard were made, partly at night and partly by day, and since there is by inspection a difference in the two, the following comparison calculations were made. Length of tape, copied from page 156.

August 10, 1894, 10.30 to 12 P.M.

Length of Tape.	v	v^2
300.5148	.0021	441
.5128	.0001	1
.5133	.0006	36
.5080	.0045	2025
.5137	.0010	100
.5127	.0000	0
.5113	.0014	196
.5146	.0019	361
.5151	.0024	576
.5108	.0019	361
.5120	.0007	49
Mean .5127		4146

$4146 \div 10 \times 3.707 = 1537.$

$\therefore$ the fourth is rejected.

300.5148	.0017	289
.5128	.0003	9
.5133	.0002	4
.5137	.0006	36
.5127	.0004	16
.5113	.0018	324
.5146	.0015	256
.5151	.0020	400
.5108	.0023	529
.5120	.0011	121
Mean .5131		1984

$$e = \sqrt{\frac{1984}{9}} = .0015$$

$$r = .0015 \times .6745 = .0010$$

$$r_o = \frac{.0010}{\sqrt{10}} = .0003 \text{ or } \frac{1}{1{,}000{,}000}$$

August 13, 1894. 9 to 10 A.M.

Length of Tape.	v	v^2
300.5164	.0001	1
.5115	.0050	2500
.5171	.0006	36
.5193	.0028	784
.5160	.0005	25
.5164	.0001	1
.5174	.0009	81
.5160	.0005	25
.5153	.0012	144
.5193	.0028	784
.5190	.0025	625
.5182	.0017	289
.5125	.0040	1600
Mean .5165		6895

$6895 \div 12 + 2.621 = 1507$

$\therefore$ the second and last are rejected.

300.5164	.0009	81
.5171	.0002	4
.5193	.0020	400
.5160	.0013	169
.5164	.0009	81
.5174	.0001	1
.5160	.0013	169
.5153	.0020	400
.5193	.0020	400
.5190	.0017	289
.5182	.0011	121
Mean .5173		2115

$$e = \sqrt{\frac{2115}{10}} = .0015$$

$$r = .0015 \times .6745 = .0010$$

$$r_o = \frac{.0010}{\sqrt{11}} = .0003 \text{ or } \frac{1}{1{,}000{,}000}$$

The length of tape No. 5 was determined in like manner by three comparisons, with the line ⊙2776 to ⊙2777. The following copy of field notes and reductions by Mr. Rice will explain. The supports remained the same, and a pull of fifteen pounds was applied:

Station. From	Station. To	Rear Scale.	Front Scale.	Sum of Front and Rear Scales	Temp. ○	Temp. —62° ○	Temp. Correction	Length as Determined by U. S. C. and G. S.	Length of Tape.	v	v^2
⊙2776	⊙2777	—.0750	+.1250	+.0500	72.25	10.25	—.0062	99.9735	100.0173	38	1444
⊙2776	⊙2777	—.0735	+.1300	+.0565	72.25	10.25	—.0062	99.9735	100.0238	28	784
⊙2776	⊙2777	—.1010	+.1560	+.0550	72.50	10.50	—.0063	99.9735	100.0222	11	484
								Mean,	100.0211		2712

$2712 \div 2 \times 1.480 = 2007$ ∴ none are rejected.

$e = \sqrt{\frac{2712}{2}} = .0037.$

$r = .0037 \times .6745 = .0025 =$ probable error of single observation.

$r_{\bigcirc} = \frac{.0025}{\sqrt{3}} = .0014 =$ probable error of mean, that is 1 : 71429.

This result is not as good as can probably be obtained by a larger number of observations. This may be obtained in connection with the Highland-Avenue Base.

MEASUREMENT OF BASE.

Two measurements of the Base were made on the morning of August 11, between the hours of 1.30 A.M. and 5.30 A.M. This required fifty applications of the tape and one hundred observations of the scales. The average time for each application of tape was therefore 4.8 minutes. Deducting the time consumed in waiting for trains to pass, transferring and checking the position of the end stations and other delays, this would be reduced to about four minutes, or two minutes for each scale observation. Probably more than three-fourths of this time was required to put the tape in position and apply the tension. Each observer held the same position as on the test of the tape, and used the same instruments. In short, an attempt was made to preserve in every possible respect the same conditions that existed in the comparisons with the Mt. Royal Standard. By this means everything in the way of constant error due to personal equation was in large part eliminated from the results. The notes were first recorded and then compared. Each observer recorded his readings on separate slips of paper. The sources of error that could not be eliminated, relate to temperature, friction of tape in supports, errors in vertical and horizontal alignment, variable slopes, movement of posts between time of application of the front and rear ends of tape, transfer of ends of base, and the errors of observation in reading all scales. These errors were, I think, reduced to a practical minimum.

FORT AVENUE BASE RECORD.

FIRST RUN.

Stations.	Elevation.	OBSERVERS. AT REAR END. Spr. B. *Gilmor. *22	Scale. Downman.	Scale. Rogers.	TEMPERATURE AT 50′ Hanna. *23	150′ *Glocker. *22	250′ *Billopp. *21	AT FRONT END. Scale. Sproul.	Scale. Morgan.	Spr. B. *Kefauver. *21	Elevation.	Station.
75	27.61	16.75	.2410	.2410	66	71	66	.8300	.8300	17.0	27.33	72
72	27.33	16.75	.2500	.2490	66	67	66	.8430	.8420	17.0	27.23	69
69	27.23	17.25	.1760	.1760	65	65	65	.7350	.7360	17.0	29.65	66
66	29.65	17.00	.2830	.2840	66	66	65	.8780	.8770	17.0	27.10	63
63	27.10	17.00	.3130	.3130	66	66	66	.9250	.9250	17.0	24.58	60
60	24.58	17.00	.3370	.3360	66	65	65	.8900	.8910	17.0	21.98	57
57	21.98	16.50	.2345	.2345	65	64	64	.7740	.7750	17.0	27.30	54
54	27.30	16.50	.2650	.2640	64	64	64	.8205	.8210	17.0	27.42	51
51	27.42	17.00	.2805	.2810	64	64	64	.8500	.8520	17 0	18.43	48
48	18.43	16.75	.3050	.3050	64	64	64	.9440	.9450	17.0	20.66	45
45	20.66	17.00	.3130	.3130	64	64	64	.8960	.8960	17.0	23.33	42
42	23.33	16.50	.3000	.3010	65	64	65	.7740	.7730	17.0	25.61	39
39	25.61	15.75	.2930	.2930	65	64	64	.7530	.7550	17.0	27.83	36
36	27.83	16.25	.2505	.2510	64	64	64	.7710	.7720	17.0	30.12	33
33	30.12	16.75	.2180	.2180	65	64	65	.7640	.7630	17.0	27.04	30
30	27.04	17.00	.2360	.2350	65	64	64	.7570	.7560	17.0	25.41	27
27	25.41	16.75	.2690	.2690	65	64	64	.7045	.7040	17.0	28.69	24
24	28.69	16.75	.2830	.2830	65	64	64	.8090	.8090	17.0	32.63	21
21	32.03	16.75	.2280	.2285	65	64	65	.7215	.7215	17.0	26.02	18
18	26.02	16.50	.2750	.2750	66	65	67	.7690	.7690	17.0	30.55	15
15	30.55	16.75	.2440	.2435	67	66	66	.7780	.7780	17.0	29.00	12
12	29.00	16.75	.3000	.3000	68	66	70	.7990	.7980	17.0	28.98	9
9	28.98	17.25	.2040	.2045	66	65	66	.7340	.7340	17.0	38.00	6
6	38.00	17.25	.1850	.1860	66	64	67	.5910	.5900	17.0	47.05	3
3	47.00	16.75	.2100	.2110	66	65	66	.7600	.7600	17.0	53.01	0

1.30 A. M. to 3.30 A. M., August 11, 1894.
Clear, with light breeze. All conditions favorable.

FORT AVENUE BASE RECORD.

SECOND RUN.

	Station.	Elevation.	Spring Balance	Scale Reading		Temperature.			Scale Reading.		Spring Balance.	Elevation.	Station.
			*22 Gilmor. At 0	Downman. At 0	Rogers. At 0	*23 Hanna, At 50	*22 Glocker. At150	*21 Billopp. At250	Sproul. At300	Morgan. At 300	*21 Kefauver. At 300		
	0	53.01	17.0	.3680	.3685	65	63	65	.9210	.9220	17.0	47.05	3
	3	47.05	16.50	.3425	.3425	64	64	65	.7510	.7500	17.0	38.00	6
	6	38.00	17.00	.3140	.3140	65	65	65	.8460	.8460	17.0	28.98	9
	9	28.98	16.50	.3400	.3400	65	64	65	.8400	.8420	17.0	29.00	12
	12	29.00	16.50	.2500	.2500	65	64	65	.7860	.7880	17.0	30.55	15
No. 23	*15	30.55	*16.50	.2225	.2225	65	64	65	.7200	.7230	17.0	26.02	18
	18	26.02	16.50	.1355	.1355	65	64	63	.6310	.6320	17.0	32.03	21
	21	32.03	16.75	.1025	.1020	65	64	64	.6310	.6300	17.0	28.69	24
	24	28.69	17.00	.1630	.1630	65	63	65	.5995	.5990	17.0	25.41	27
	27	25.41	17.25	.1040	.1040	64	63	66	.6255	.6250	17.0	27.04	30
	30	27.04	17.00	.0700	.0700	65	64	66	.6150	.6160	17.0	30.12	33
	33	30.12	16.50	.1345	.1345	65	63	66	.6545	.6550	17.0	37.83	36
	36	27.83	16.50	.1665	.1675	65	63	65	.6245	.6250	17.0	25.61	39
	39	25.61	16.75	.1200	.1200	65	64	66	.5910	.5910	17.0	23.33	42
	42	23.33	17.00	.1740	.1745	65	64	66	.7570	.7580	17.0	20.66	45
	45	20.66	17.25	.1340	.1340	65	64	66	.7710	.7710	17.0	18.43	48
	48	18.43	17.25	.2440	.2440	65	64	66	.8090	.8090	17.0	27.42	51
	51	27.42	16.75	.1280	.1275	65	64	66	.6840	.6850	17.0	27.30	54
	54	27.30	16.50	.1150	.1155	65	63	64	.6550	.6550	17.0	21 98	57
	57	21.98	17.50	.1610	.1610	64	64	65	.7140	.7140	17.0	24.58	60
	60	24.58	17.00	.1935	.1935	64	64	66	.8070	.8070	17.0	27.10	63
	63	27.10	17.25	.2090	.2090	64	64	66	.8060	.8050	17.0	29.65	66
	66	29.65	17.25	.2895	.2890	65	64	66	.8490	.8500	17.0	27.23	69
	69	27.23	16.50	.1585	.1585	65	63	66	.7540	.7550	17.0	27.33	72
	72	27.33	16.75	.0730	.0735	64	64	66	.6650	.6670	17.0	27.61	75

*Balance No. 23 reads ¼ lb. too much at 17 lbs.
3.30 A.M. to 5.30 A.M., August 11, 1894.
Clear, with very little wind. All conditions favorable.

The measurement from Station 72 to △Rodney could not be made with the same degree of precision that characterized the long distance measurements. This work was done August 13, by Party No. 1, under direction of Assistant Sproul. Messrs. Sproul and Morgan observed the scales, Mr. Wagner applied the tension. Assistant Wood inspected the whole work, observed the temperature and recorded all the observations. The weather conditions were not favorable, but as the error in this measurement does not appear but once, it is not very serious. The measurement from Station 75 to ⓐ McHenry and the measurements from stations on the base to traverse stations were made by Party No. 1, August 13 and 14. The probable error in these is small, but the work was not done with an extraordinary degree of precision.

REDUCTION AND RESULTS.

The reduction and results of the measurements from Station 72 to △Rodney are as follows:

FIRST RUN.

Station. From.	Station. To.	Distance.	Tape Correction.	Temp. °	Temp. − 62°	Temp. Correction.	Slope Distance.	Diff. in Elevation.	Horizontal Distance.
72	73	100.0000	+.0211	83.5	21.5	−.0129	100.0082	0.09	100.0082
73	△Rodney.	17.2415	+.0036	79.5	17.5	−.0018	17.2433	0.02	17.2433
								Total.....	117.2515

SECOND RUN.

72	73	100.0000	+.0211	79.5	17.5	−.0105	100.0106	0.09	100.0106
73	△Rodney.	17.2452	+.0036	78.5	16.5	−.0017	17.2471	0.02	17.2471
								Total.....	117.2577

THIRD RUN.

72	73	100.0000	+.0211	77.0	15.0	−.0090	100.0120	0.09	100.0120
73	△Rodney.	17.2467	+.0036	77.0	15.0	−.0015	17.2488	0.02	17.2488
								Total.....	117.2608
								Mean.....	117.2567

v	v^2
.0052	2704
.0010	100
.0041	1681
	4485

$r = .6745\sqrt{\frac{4485}{3-1}} = .0032$, probable error of single observation.

$r_\circ = \frac{.0032}{\sqrt{3}} = .0019$, probable error of mean.

The reduction and results of the long distance measurements are given on the three following pages; the agreement and value of the measurement is best indicated by the column headed "v," page 167.

FORT AVENUE BASE.

FIRST RUN.

ASSUMED: { TAPE AT 65° F.=300.5201.
CO-EFFICIENT OF EXPANSION=.000006.

STATIONS.		Rear Scale.	1 Ft. Less Front Scale.	Sum of Front and Rear Scales	Temp. C	Temp. —65° C	Temp. Correction.	Slope Distance.	Diff. in Elevation.	Horizontal Distance.
From.	To.									
75	72	.2410	.1700	.4110	67.7	+2.7	+.0049	300.1140	0.28	300.1139
72	69	.2495	.1575	.4070	66.3	+1.3	+.0023	300.1154	0.10	300.1154
69	66	.1760	.2645	.4405	65.0	0.0	.0000	300.0796	2.42	300.0698
66	63	.2835	.1225	.4060	65.7	+0.7	+.0013	300.1154	2.55	300.1046
63	60	.3130	.0750	.3880	66.0	+1.0	+.0018	300.1339	2.52	300.1233
60	57	.3365	.1095	.4460	65.7	+0.7	+.0013	300.0754	2.60	300.0641
57	54	.2345	.2255	.4600	64.3	—0.7	—.0013	300.0588	5.32	300.0116
54	51	.2645	.1793	.4438	64.0	—1.0	—.0018	300.0745	0.12	300.0745
51	48	.2807	.1490	.4297	64.0	—1.0	—.0018	300.0886	8.99	299.9539
48	45	.3050	.0555	.3605	64.0	—1.0	—.0018	300.1578	2.23	300.1495
45	42	.3130	.1040	.4170	64.0	—1.0	—.0018	300.1013	2.67	300.0894
42	39	.3005	.2265	.5270	64.7	—0.3	—.0005	299.9926	2.28	299.9838
39	36	.2930	.2460	.5390	64.3	—0.7	—.0013	299.9798	2.22	299.9715
36	33	.2507	.2285	.4792	64.0	—1.0	—.0018	300.0391	2.29	300.0303
33	30	.2180	.2365	.4545	64.7	—0.3	—.0005	300.0651	3.08	300.0492
30	27	.2355	.2435	.4790	64.3	—0.7	—.0013	300.0398	1.63	300.0353
27	24	.2690	.2958	.5648	64.3	—0.7	—.0013	299.9540	3.28	299.9360
24	21	.2880	.1910	.4740	64.3	—0.7	—.0013	300.0448	3.34	300.0262
21	18	.2287	.2785	.5072	64.7	—0.3	—.0005	300.0126	6.01	299.9523
18	15	.2750	.2310	.5060	66.0	+1.0	+.0018	300.0159	4.53	299.9817
15	12	.2437	.2220	.4657	66.3	+1.3	+.0023	300.0567	1.55	300.0527
12	9	.3000	.2015	.5015	68.0	+3.0	+.0054	300.0240	0.02	300.0240
9	6	.2042	.2660	.4702	65.7	+0.7	+.0013	300.0512	9.02	299.9156
6	3	.1855	.4095	.5950	65.7	+0.7	+.0013	299.9264	9.05	299.7898
3	0	.2105	.2400	.4505	65.7	+0.7	+.0013	300.0709	5.96	300.0117

TOTAL, 7500.6301

FORT AVENUE BASE.

SECOND RUN.

ASSUMED: { TAPE AT 65° F.=300.5201.
CO-EFFICIENT OF EXPANSION=.000006.

STATIONS. From.	STATIONS. To.	Rear Scale.	1 Ft. less Front. Scale.	Sum of Front and Rear Scales	Temp. °	Temp. ° —65°	Temp. Correction.	Slope Distance.	Diff. in Elevation.	Horizontal Distance.
72	75	.0732	.3340	.4072	64.7	—0.3	—.0005	300.1124	0.28	300.1123
69	72	.1585	.2455	.4040	64.7	—0.3	—.0005	300.1156	0.10	300.1156
66	69	.2892	.1505	.4397	65.0	0.0	.0000	300.0804	2.42	300.0706
63	66	.2090	.1945	.4035	64.7	—0.3	—.0005	300.1161	2.55	300.1053
60	63	.1935	.1930	.3865	64.7	—0.3	—.0005	300.1331	2.52	300.1225
57	60	.1610	.2860	.4470	64.3	—0.7	—.0013	300.0718	2.60	300.0605
54	57	.1152	.3450	.4602	64.0	—1.0	—.0018	300.0581	5.32	300.0109
51	54	.1277	.3155	.4432	65.0	0.0	.0000	300.0769	0.12	300.0769
48	51	.2440	.1910	.4350	65.0	0.0	.0000	300.0851	8.99	299.9504
45	48	.1340	.2290	.3630	65.0	0.0	.0000	300.1571	2.23	300.1488
42	45	.1742	.2425	.4167	65.0	0.0	.0000	300.1034	2.67	300.0915
39	42	.1200	.4090	.5290	65.0	0.0	.0000	299.9911	2.28	299.9823
36	39	.1670	.3753	.5423	64.3	—0.7	—.0013	299.9765	2.22	299.9682
33	36	.1345	.3453	.4798	64.7	—.03	—.0005	300.0398	2.29	300.0310
30	33	.0700	.3845	.4545	65.0	0.0	.0000	300.0656	3.08	300.0497
27	30	.1040	.3748	.4788	64.3	—0.7	—.0013	300.0400	1.63	300.0355
24	27	.1630	.4008	.5638	64.3	—0.7	—.0013	299.9550	3.28	299.9370
21	24	.1022	.3695	.4717	64.3	—0.7	—.0013	300.0471	3.34	300.0285
18	21	.1355	.3685	.5040	64.0	—1.0	—.0018	300.0143	6.01	299.9540
15	18	.2225	.2785	.5010	64.7	—0.3	—.0005	300.0186	4.53	299.9844
12	15	.2500	.2130	.4630	64.7	—0.3	—.0005	300.0566	1.55	300.0526
9	12	.3400	.1590	.4990	64.7	—0.3	—.0005	300.0206	0.02	300.0206
6	9	.3140	.1540	.4680	65.0	0.0	.0000	300.0521	9.02	299.9165
3	6	.3425	.2495	.5920	64.3	—0.7	—.0013	299.9268	9.05	299.7902
0	3	.3682	.0785	.4467	64.3	—0.7	—.0013	300.0721	5.96	300.0129

TOTAL, 7500.6287

FORT AVENUE BASE.

STATIONS.		HORIZONTAL DISTANCE.		v	v^2
FROM	TO	FIRST RUN	SECOND RUN.		
75	72	300.1139	300.1123	+16	256
72	69	300.1154	300.1156	— 2	4
69	66	300.0698	300.0706	— 8	64
66	63	300.1046	300.1053	— 7	49
63	60	300.1233	300.1225	+ 8	64
60	57	300 0641	300.0605	+36	1296
57	54	300.0116	300.0109	+ 7	49
54	51	300.0745	300.0769	—24	576
51	48	299.9539	299.9504	+35	1225
48	45	300.1495	300.1488	+ 7	49
45	42	300.0894	300.0915	—21	441
42	39	299.9838	299.9823	+15	225
39	36	299.9715	299.9682	+33	1089
36	33	300.0303	300.0310	— 7	49
33	30	300.0492	300.0497	— 5	25
30	27	300.0353	300.0355	— 2	4
27	24	299.9360	299.9370	—10	100
24	21	300.0262	300 0285	—23	529
21	18	299.9523	299.9540	—17	289
18	15	299.9817	299.9844	—27	729
15	12	300.0527	300.0526	+ 1	1
12	9	300.0240	300.0206	+34	1156
9	6	299.9156	299.9165	— 9	81
6	3	299.7898	299.7902	— 4	16
3	0	300.0117	300.0129	—12	144
Totals.		7500.6301	7500.6287	+14	8510

Mean, 7500.6294.

Note: $+v$ indicates, first run longest. $-v$ second run longest.

Probable error by comparison of each tape lenth = $.337\sqrt{8510} = .0031$

or 1 in 2,419,355.

Probable error by comparison of totals and mean = $.6745\sqrt{\frac{98}{2(2-1)}} = .0005$

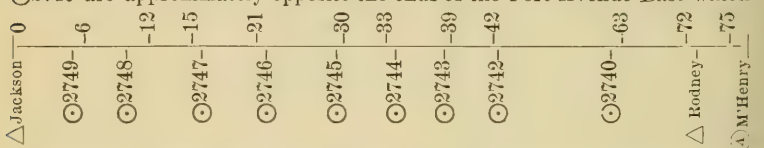
or 1 in 15,000,000.

Mean	=	7500.6294
Less distance 75—△Rodney	=	182.8564
△ Jackson — △ Rodney	=	7317.7730
Add to mean distance 75—(A)McHenry	=	34.9377
△ Jackson — (A) McHenry	=	7535.5671

OTHER DISTANCES DETERMINED ARE AS FOLLOWS:

Station. From.	Station. To.	Distances.	Tape Correction.	Temp. ○	Temp. Correction.	Diff. in Elevation	Slope Correction.	Horizontal Distance.
⊙2749	6	68.3168	+.0148	83.0	—.0088	2.09	—.0320	68.3428
12	⊙2748	169.1600	+.0359	82.7	—.0211	0.00	.0000	169.1748
⊙2747	15	38.7975	+.0084	84.5	—.0054	0.00	.0000	38.8005
21	⊙2746	53.8890	+.0105	85.5	—.0071	0.00	.0000	53.8924
⊙2745	30	28.1230	+.0063	83.5	—.0039	0.00	.0000	28.1254
33	⊙2744	66.6580	+.0140	85.5	—.0094	0.40	—.0010	66.6616
39	⊙2743	107.0970	+.0232	86.0	—.0158	0.74	—.0030	107.1014
42	⊙2742	7.9295	+.0017	93.0	—.0015	0.00	.0000	7.9297
⊙2740	63	99.8045	+.0211	90.0	—.0168	0.80	—.0034	99.8054
75	④McHenry	34.9333	+.0070	74.8	—.0026	0.00	.0000	34.9377

The diagram below indicates the relative location of stations. ⊙2749 and ⊙2740 are approximately opposite the ends of the Fort-Avenue Base which



was measured some years since by the U. S. Coast and Geodetic Survey.

COMPARISON OF RESULTS.

The distance from △Jackson to △Rodney (1st tape determ't'n)=7317.7730
" " " " (2d " ")=7317.7330
" " " " (3d " ")=7317.8380

The second determination is, I think, more likely to be nearest the correct one.

The mean of the 3 computed lengths between same stations=7318.6729
The same diminished by Con. applied by U. S. C. & G. S.=7317.7797
The distance from ⊙2749 to ⊙2740 (1st tape determination)=5668.9087
" " " " (2d " ")=5668.8751
" " " " (3d " ")=5668.9633
" " " " U. S. C. & G. S., =5669.1454

This last is only approximate, as the Coast Survey line was measured on a parallel line.

The assumed length of the line △Monument to △Bay View=18347.1950
The same diminished by Con. applied by the U. S. C. & G. S.=18344.9591
Distance △Monument to △Bay View computed from Fort-Avenue base. ..... (1st tape det.)=18344.9409
Distance △Monument to △Bay View computed from Fort-Avenue base. ..... (2d tape det.)=18344.8397
Distance △Monument to △Bay View computed from Fort-Avenue base ..... (3d tape det.)=18345.1055

The triangulation connection between the lines △Monument—△Bay View and △Jackson—△Rodney has not been perfected. So these results are only approximate.

BEARING UPON TRAVERSE WORK.

If the foregoing results are approximately correct, their bearing upon the traverse system is very important. It is, perhaps, too soon to draw conclusions, but the results are satisfactory and interesting.

The several traverse distances which make up the distance △ Jackson—△ McHenry were measured some months since by Party No. 1, under direction of Assistant Sproul. These results were as follows: The table gives the result of each measurement, the mean, totals, Base distance (1st determination of tape), error of traverse distance in each case upon assumption that the base distance is correct, and the allowable discrepancy in each case on the basis of $\frac{1}{15,000} \times$ length $+.04$ feet for each line, and the total. (It was not the intention to apply this limit to individual traverse distances, but to figures and series of traverse lines where a certain amount of the error may be expected to be compensating.)

STATION.		TRAVERSE DISTANCES.								BASE DIST.	$\frac{1}{15000} \times$ L. $+.04'$
		1st. MEAS.		2nd. MEAS.		3rd. MEAS.		MEAN.			
From	To	Dist.	Error.	Dist.	Error.	Dist.	Error.	Dist.	Error.		
△Jackson. = 0of Base	⊙2749	531.454	— .058	531.471	— .041	531.464	— .048	531.463	— .049	531.512	.075
⊙2749	⊙2748	499.008	— .046	× 498.975	— .079	498.984	— .070	498.989	— .065	499.054	.073
⊙2748	⊙2747	508.060	+ .032	508.001	— .027	508.063	+ .035	508.041	+ .013	508.028	.074
⊙2747	⊙2746	615.014	— .014	614.983	— .045	614.977	— .051	614.991	— .037	615.028	.081
⊙2746	⊙2745	817.898	— .084	817.894	— .088	817.888	— .094	817.893	— .089	817.982	.094
⊙2745	⊙2744	394.858	+ .022	394.861	+ .025	394.822	— .014	394.847	+ .011	394.836	.066
⊙2744	⊙2743	× 426.147	— .091	× 426.159	— .079	× 426.143	— .095	× 426.150	— .088	426.238	.068
⊙2743	⊙2742	415.041	+ .028	415.033	+ .020	415.038	+ .025	415.037	+ .024	415.013	.068
⊙2742	⊙2740	× 1992.517	— .212	× 1992.552	— .177	1992.571	— .158	× 1992.546	— .183	1992.729	.173
⊙2740	⊙McHenry	1335.160	+ .013	1335.165	+ .018	1335.184	+ .037	1335.170	+ .023	1335.147	.129
△Jackson.	⊙McHenry	7535.157	— .410	7535.094	— .473	7535 134	— .433	7535.126	— .441	7535.567	.542

The measurements that fall outside the limit are marked with a cross (×). It must be borne in mind that the 300-foot supports may have been moved slightly between the time of the base measurements and their connection with some of the traverse stations. This does not apply to Stations 0, 6, 63, 72 and 75, all of which were carefully referenced and tested. I know of no other probable explanation of the minus error in the distance ⊙2744—⊙2743 with a plus discrepancy each side, as the error is large and the conditions were about the same as on the connecting lines. The tape was almost entirely suspended in the measurement of the line ⊙2740 to ⊙ McHenry. Under this condition, the effect of sag is greater than the effect of the extra pull making the distance too large. The results accord with this. The magnitude and large majority of minus errors indicates a constant. This may be due to erroneous length of tape, incorrect co-efficient of expansion or temperature, or to the effect of pull. The tape was generally supported most of its length, the ends being elevated about 0.4′.

Now, if the regular traverse adjustment be applied to each of these measurements the following results are obtained. The table gives the adjusted traverse distances, amount of error after adjustment, Base distance and allowable error.

STATION.		ADJUSTED TRAVERSE DISTANCES.								BASE DIST.	$\frac{1}{15{,}000}\times L + .04'$
		FIRST MEAS.		SECOND MEAS.		THIRD MEAS.		MEAN.			
From.	To.	Dist.	Error.	Dist.	Error.	Dist.	Error.	Dist.	Error.		
△Jackson	⊙2749	531.483	— .029	531.504	— .008	531.495	— .017	531.494	— .018	531.512	.075
⊙2749	⊙2748	499.035	— .019	499.006	— .048	499.013	— .041	499.018	— .036	499.054	.073
⊙2748	⊙2747	508.088	+ .060	508.033	+ .005	508.092	+ .064	508.071	+ .043	508.028	.074
⊙2747	⊙2746	615.048	+ .020	615.022	— .006	615.012	— .016	615.027	— .001	615.028	.081
⊙2746	⊙2745	817.942	— .040	817.945	— .037	817.935	— .047	817.941	— .041	817.982	.094
⊙2745	⊙2744	394.879	+ .043	394.886	+ .050	394.845	+ .009	394.870	+ .034	394.836	.066
⊙2744	⊙2743	426.170	— .068	426.186	— .052	426.167	— .071	426.175	— .063	426.238	.068
⊙2743	⊙2742	415.064	+ .051	415.059	+ .046	415.062	+ .049	415.061	+ .048	415.013	.068
⊙2742	⊙2740	1992.625	— .104	1992.676	— .053	1992.685	— .044	1992.662	— .067	1992.729	.173
⊙2740	④ McHenry	1335.233	+ .086	1335.250	+ .103	1335.261	+ .114	1335.248	+ .101	1335.147	.129
△Jackson	④ McHenry	7535.567	+ — .000	7535.567	+ — .000	7535.567	+ — .000	7535.567	+ — .000	7535.567	.542

One is at the limit and one is .003′ outside. This occurs upon the line ⊙ 2744 — ⊙ 2743, upon which doubt has already been thrown. Of the 40 errors 17 are plus and 23 minus. The two marked with a cross (×) are the only ones that would be outside the limit if tape determination No. 2 or No. 3 was used. The maximum rate of plus error is $\frac{1}{7937}$ × length of line. The maximum rate of minus error is $\frac{1}{6000}$ × length of line. If tape determination No. 2 had been used the amount of error in the totals in the preceding table, page 170, would have been decreased .040′. If No. 3 had been used this would have been increased .065′.

These are rigid tests in which traverse work meets all requirements in point of accuracy. The evidence goes to show that upon paved streets with light grades, the method of traverse work used will give results within the required limit. It also appears that, except to eliminate *mistakes* (as distinguished from small errors of observations), one measurement of distance is sufficient. It may well be questioned if these may not be eliminated by some cheaper method than by repeating the measurement. The Highland-avenue base will throw more light upon the subject, as this, too, has been traversed and the effect of extreme conditions of temperature and grades and supports will be shown.

The measurement of the Fort-Avenue Base gives a result about $\frac{1}{8600}$ shorter than is given by the triangulation from the accepted base △ Monument — △ Bay View. On the supposition that this is correct, the

discrepancy is nearly twice as large as that allowed on traverse work; hence it is folly trying to bring the latter within that limit. Only those traverses as they now stand, which are shorter than the triangulation distances by amounts from 1 in about 5,000 to 1 in about 17,000, are inside the limit. The few, if any, traverses that have checked extremely close are in error. It is probable that a large majority of traverses will now check. In short, the work most mistrusted may be the best.

Believing that the Fort-Avenue Base has been measured in a practical and economical manner; that all requirements in point of precision have been met, and trusting it will meet with your approval, this report is

Respectfully submitted,

GEO. P. WOOD,

Assistant Engineer.

BALTIMORE, MD., September 10, 1894.

COL. H. T. DOUGLAS, *Chief Engineer:*

DEAR SIR:

The following report on the Highland-Avenue Base is intended to accompany and supplement my report of the 16th ult. on the Fort-Avenue Base. For more complete explanation and description please refer to that report.

Yours respectfully,

GEO. P. WOOD,

Assistant Engineer.

REPORT ON THE HIGHLAND-AVENUE BASE.

LOCATION.

This base is located near the centre of Highland Avenue, between Aliceanna avenue and a point about 300 feet north of the P., W. & B. R. R. The ends are defined by marks on copper bolts, set with lead in granite stones. The tops of these stones are a little below the surface of the ground. The south end of the base is known as △ Highland and the north end as △ St. Michael. The Base is a diagonal of two quadrilaterals, viz.: △ Monument,—△ St. Michael, —△ Bay View,—△ Highland and △ Hopkins,—△ St. Michael,—△ Bay View,—△ Highland to be made a part of the primary triangulation system of the City.

INSTRUMENTS AND APPLIANCES.

The instruments and appliances used were practically the same as were used on the Fort-Avenue Base. Some of the supports were very high and there were some breaks in grade between the 300-foot stations. The supports were well braced and pulleys were used where the grade changed between 300 foot stations.

METHOD OF APPLICATION.

The method of application was the same as on the Fort-Avenue Base.

PROGRAMME OF OBSERVATIONS.

Some of the measurements were made by a very small party during the day and some at night with a larger party. The programme of observations was essentially the same as on the Fort-Avenue Base, but there were many little differences.

LENGTH OF TAPE.

Eight comparisons of the tape with the Mount Royal Standard were made by day-light and twelve at night, in addition to those reported. The result is a practicable agreement of all observations, except the thirteen made on the morning of August 13. These have been rejected and the mean of all the others accepted. The assumed co-efficient of expansion .000006 is found to be very nearly correct for one degree F. Accepting the Mount Royal Standard and this co-efficient as absolute, the following length of tape is obtained at—62° F.:

Mean of (31) *Determinations, (Accepted.)*

Length of tape between extreme ends of graduated scales = 300.5129′

Probable error
of a single observation = .0016′ or 1 in 187,820

Probable error
of the mean = .00028′ or 1 in 1,071,429

1*st Determination. Mean of* (10), (1 *Rejected.*)

Length of tape between extreme ends of graduated scales = 300.5131′

Probable error
of a single observation = .0010′ or about 1 in 300,000

Probable error
of the mean = .0003′ " 1 in 1,000,000

2*d Determination. Mean of* (11), (2 *Rejected*), *Not used.*

Length of tape between extreme ends of graduated scales = 300.5173′

Probable error
of a single observation = .0010′ or about 1 in 300,000

Probable error
of the mean = .0003′ " 1 in 1,000,000

3*d Determination. Mean of* (8), (*None Rejected.*)

Length of tape between extreme ends of graduated scales = 300.5145′

Probable error
of a single observation = .0011′ or about 1 in 273,000

Probable error
of the mean = .0004′ " 1 in 751,000

4*th Determination. Mean of* (12), (*None Rejected.*)

Length of tape between extreme ends of graduated scales = 300.5122′

Probable error
of a single observation = .0017′ or about 1 in 176,000
Probable error
of the mean = .0005′ " 1 in 601,000

The length of the tape as determined by comparison with the different parts of the Mt. Royal Standard is as follows:

The 1st, 3d and 4th Determinations are used.

1*st* ⊙2773— ⊙2777. *Mean of* (9), (1 *Rejected.*)

Length of tape between extreme ends of graduated scales = 300.5137′
Probable error
of a single observation = .0008′ or about 1 in 375,000
Probable error
of the mean = .0003′ " 1 in 1,000,000

2*nd.* ⊙2775=⊙2778. *Mean of* (9). (*None rejected.*)

Length of tape between extreme ends of graduated scales = 300.5103′
Probable error
of a single observation = .0011 or 1 in about 273,000
Probable error
of the mean = .0004 " " 750,000

3*rd.* ⊙2776=⊙2779. *Mean of* (11). (1 *rejected.*)

Length of tape between extreme ends of graduated scales = 300.5142′
Probable error
of a single observation = .0007 or 1 in about 428,000
Probable error
of the mean = .0002 " " 1,500,000

These results indicate that the errors in the standard exceed those in the application of the tape and that these errors are important factors in the probable error of the tape length.

No more comparisons of tape No. 5 have been made.

MT. ROYAL STANDARD RECORD.

Date.	Station.	Elevation.	OBSERVERS. AT REAR END. Spring B. No. 24. Sauner and Gilmor	Scale. Downman	Scale. H.D.Pollard and Rogers.	Temperature. At 50′ No. 24. Taylor and Hanna.	At 150′ No. 22. Wood and Glocker.	At 250′ No. 21. O'Brien and Billopp.	At Front End. Scale. Morgan.	Scale. Rogers and H.D.Pollard.	Spring B. No. 21. Disney and Kefauver.	Elevation.	Station.
Aug. 28, 1894. 6.20 to 7.00 P.M.	⊙2773	113.9504	17.00	.2300	.2300	76	74	76	.7020	.7020	17	116.0489	⊙2777
	⊙2775	114.6420	16.75	.3650	.3650	76	74	76	.8475	.8480	17	116.7548	⊙2778
	⊙2776	115.3556	16.50	.3790	.3790	76	75	76	.8300	.8305	17	117.4544	⊙2779
	⊙2779	117.4544	16.75	.2300	.2300	77	76	76	.6795	.6795	17	115.3556	⊙2776
	⊙2778	116.7548	16.75	.3200	.3200	77	74.5	76	.8025	.8025	17	114.6420	⊙2775
	⊙2777	116.0489	17.00	.2425	.2425	77	74.5	75	.7155	.7155	17	113.9504	⊙2773
	⊙2776	115.3556	17.00	.3350	.3350	76	75	77	.7855	.7855	17	117.4544	⊙2779
	⊙2779	117.4544	16.75	.1615	.1615	76	75	76	.6130	.6130	17	115.3556	⊙2776
Aug. 28, 1894. 8.40 to 9.20 P.M.	⊙2773	113.9504	17.00	.1705	.1710	73	73	70	.6510	.6510	17	116.0489	⊙2777
	⊙2775	114.6420	16.00	.3395	.3390	73	73	72	.8310	.8310	17	116.7548	⊙2778
	⊙2776	115.3556	15.75	.2845	.2845	73	73	72	.7440	.7445	17	117.4544	⊙2779
	⊙2779	117.4544	17.00	.0690	.0690	72	73	70	.5255	.5255	17	115.3556	⊙2776
	⊙2778	116.7548	15.75	.2680	.2685	72	73	70	.7600	.7600	17	114.6420	⊙2775
	⊙2777	116.0489	16.00	.0915	.0915	72	72	70	.5740	5740	17	113.9504	⊙2773
	⊙2773	113.9504	15.50	.1510	.1510	72	73	70	.6335	.6335	17	116.0489	⊙2777
	⊙2775	114.6420	16.00	.2810	.2815	72	72	70	.7740	.7740	17	116.7548	⊙2778
	⊙2776	115.3556	16.00	.2945	.2945	72	73	70	.7550	7550	17	117.4544	⊙2779
	⊙2779	117.4544	17.00	.2140	.2140	72	74	70	.6715	.6715	17	115.3556	⊙2776
	⊙2778	116.7548	16.25	.2500	.2500	72	73	71	.7420	.7420	17	114.6420	⊙2775
	⊙2777	116.0489	15.75	.1960	.1965	72	72	70	.6800	.6800	17	113.9504	⊙2773

NOTE.—Second observer in each case belongs with the observations made from 8.40 to 9.20 P.M. Aug. 28 1894.
Balance No. 24 correct but sluggish.

MEASUREMENT OF BASE.

The base was measured in sections, a section being remeasured each day that had been measured previously.

August 27. One measurement was made from Station 51 to Station 69, between 4.45 P.M. and 5.50 P.M., and one from Station 69 to Station 51, between 5.55 and 6.40 P.M. The conditions were favorable, except for the high supports, which caused delay.

August 28. The supports were all tested and the measurements of the preceding day repeated, between 12.37 P.M. and 3.50 P.M. The conditions were not very good. The temperature was high and the sun was at times visible. These results were rejected because there seemed to be trouble with the temperature. The Mount Royal Standard tests were made later in the evening.

August 30. One measurement was made from Station 33 to Station 69, between 6.15 and 8.10 P.M. The conditions were good.

August 31 and September 1. One measurement each was made from Station 51 to 6, 6 to 51 and 33 to 6, between 8.30 P.M. August 31 and 12.15 A.M. September 1. There was much trouble about keeping the supports in place and there were some large differences in temperature. Other conditions were good. Two measurements each were made from Station .0 = △ Highland to Station 12 and return, between 4.20 and 5.00 P.M. September 1. The conditions were not

very good. The last measurement, from 12 to 0, and all from 6 to 12 were not used except for comparison.

The day tests on the Mount Royal Standard Base, August 13, and the day measurements on the Highland-Avenue Base, August 28 and September 1, all disagreed with the night measurements, and apparently on account of the different effect of light and heat upon the tape and thermometers. None of these have been used except the measurements from 0 to 6 and return, and these only after being corrected for this discrepancy by comparison with 6 to 12.

Station 51 was moved south .002 feet between the measurements of August 30 and August 31. Station 6 was moved south .0142 feet between the measurements of August 31 and September 1.

COMPARISON OF TAPE WITH MT. ROYAL STANDARD.

DATE.	STATION. From.	STATION. To.	Rear Scale.	1 Foot Less Front Scale.	Sum of Front and Rear Scales.	Average Temperature. ○	Tem. Less 62°. ○	Temp. Corrections.	Length on Slope as Determined by U.S.C. & G.S.	Length of Tape.	v	v^2
Aug. 28, 1894, 6.20 to 7 P.M.	⊙2773	⊙2777	.2300	.2980	.5280	75.3	13.3	—.0239	300.0131	300.5172	43	1849
	⊙2775	⊙2778	.3650	.1523	.5173	75.3	13.3	—.0239	300.0194	300.5128	1	1
	⊙2776	⊙2779	.3790	.1698	.5488	75.7	13.7	—.0247	299.9902	300.5143	14	196
	⊙2779	⊙2776	.2300	.3205	.5505	76.3	14.3	—.0257	299.9902	300.5150	21	441
	⊙2778	⊙2775	.3200	.1975	.5175	75.8	13.8	—.0248	300.0194	300.5121	8	64
	⊙2777	⊙2773	.2425	.2845	.5270	75.5	13.5	—.0243	300.0131	300.5158	29	841
	⊙2776	⊙2779	.3350	.2145	.5495	76.0	14.0	—.0252	299.9902	300.5145	16	256
	⊙2779	⊙2776	.1615	.3870	.5485	75.7	13.7	— 0247	299.9902	300.5140	11	121
	⊙2773	⊙2777	.1707	.3490	.5197	72.0	10.0	—.0180	300.0131	300.5148	19	361
	⊙2775	⊙2778	.3392	.1690	.5082	72.7	10.7	—.0193	300.0194	300.5083	46	2116
Aug. 28, 1894, 8.40 to 9.20 P.M.	⊙2776	⊙2779	.2845	.2558	.5403	72.7	10.7	—.0193	299.9902	300.5112	17	289
	⊙2779	⊙2776	.0690	.4745	.5435	71.7	9.7	—.0175	299.9902	300.5162	33	1089
	⊙2778	⊙2775	.2682	.2400	.5082	71.7	9.7	—.0175	300.0194	300.5101	28	784
	⊙2777	⊙2773	.0915	.4260	.5175	71.3	9.3	—.0167	300.0131	300.5139	10	100
	⊙2773	⊙2777	1510	.3665	.5175	71.7	9.7	—.0175	300.0131	300.5131	2	4
	⊙2775	⊙2778	.2812	.2260	.5072	71 3	9.3	—.0167	300.0194	300.5099	30	900
	⊙2776	⊙2779	.2945	.2450	.5395	71.7	9.7	—.0175	299.9902	300.5122	7	49
	⊙2777	⊙2776	.2140	.3285	.5425	72.0	10.0	—.0180	299.9902	300.5147	18	324
	⊙2778	⊙2775	.2500	.2580	.5080	72.0	10.0	—.0180	300.0194	300.5094	35	1225
	⊙2777	⊙2773	.1962	.3200	.5162	71.3	9.3	—.0167	300.0131	300.5126	3	9
Aug. 10, 1894, 10.30 to 12 P.M.	⊙2773	⊙2777	.2525	.2515	.5040	63.3	1.3	—.0023	300.0131	300.5148	19	361
	⊙2776	⊙2779	.2410	.2865	.5275	64.7	2.7	—.0049	299.9902	300.5128	1	1
	⊙2779	⊙2776	.2010	.3275	.5285	65.0	3.0	—.0054	299.9902	300.5133	4	16
	⊙2778	⊙2775	.2005	.2950	.4955	65.7	3.7	—.0067	300.0194	300.5082	47	2209
	⊙2777	⊙2773	.2145	.2915	.5060	65.0	3.0	—.0054	300.0131	300.5137	8	64
	⊙2773	⊙2777	.2127	.2910	.5037	64.3	2.3	—.0041	300.0131	300.5127	2	4
	⊙2775	⊙2778	.2700	.2260	.4960	64.3	2.3	—.0041	300.0194	300.5113	16	256
	⊙2776	⊙2779	.2535	.2750	.5285	64.3	2.3	—.0041	299.9902	300.5146	17	289
	⊙2779	⊙2776	.2500	.2780	.5280	63.7	1.7	—.0031	299.9902	300.5151	22	484
	⊙2778	⊙2775	.2500	.2450	.4950	64.0	2.0	—.0036	300.0194	300.5108	21	441
	⊙2777	⊙2773	.2700	.2330	.5030	64.3	2.3	—.0041	300.0131	300.5120	9	81
									MEAN....	300.5129		15225

$15225 \div 30 \times 5.756 = 2919$ ∴ none are rejected.

$e = \sqrt{\frac{15225}{30}} = .0023$

$r = .0023 \times .6745 = .0016$ probable error of single observation.

$r_{\bigcirc} = \frac{.0016}{\sqrt{31}} = .00028$ = probable error of mean, ratio 1:1,071,429

HIGHLAND AVENUE BASE RECORD.

Date.	Station.	Elevation.	Observers. At rear end. Spr. B. Sauner. No. 23	Scale. Downman.	Scale. H.D. Pollard.	Temperature at 50′ Taylor. No. 24 No. 23	Temperature at 150′ Pierce and Wood. c No. 22	Temperature at 250′ O'Brien. No. 21	At front end. Scale. Morgan.	Scale. Rogers.	Spr B Disney. No 21	Elevation.	Station.
							FIRST RUN.						
Aug. 27, 1894, P.M.	4-45	51	a 68.95	16.75	.3875	.3880	74	73	73	.5785	.5785	17	64.71	54
	4-52	54	a 64.71	16.50	.1825	.1825	74	74	73	.8565	.8565	17	57.38	57
	5-07	57	57.38	17.00	.4925	.4925	73	73	73	.7825	.7825	17	69.42	60
	5-15	60	69.42	17.00	.3895	.3895	72	72.5	72	.6840	.6840	17	a 75.74	63
	5-40	63	a 75.74	17.00	.0120	.0120	72	74	72	.9405	.9410	17	a 85.69	66
	5-50	66	a 85.69	16.75	.0920	.0920	72	73	72	.5955	.5955	17	94.01	69
							SECOND RUN.						
	5-55	69	94.01	17.25	.2880	.2875	72	73	72	.7905	.7905	17	a 85.69	66
	6-05	66	a 85.69	17.25	.0120	.0115	72	74	72	.9390	.9390	17	a 75.74	63
	6-13	63	a 75.74	17.00	.3465	.3465	75	74	72	.6445	.6445	17	69.42	60
	6-20	60	69.42	b 17.50	.2400	.2400	75	73	72	.5315	.5315	17	57.38	57
	6-27	57	57.38	17.00	.1440	.1440	No. 24 75	73	72	.8200	.8200	17	a 64.71	54
	6-40	54	64.71	17.00	.3400	.3400	73	73	72	.5325	.5325	17	a 68.95	51
							THIRD RUN.						
Aug. 28, 1894, P.M.	12-37	51	a 68.95	17.00	.3600	.3600	81	83	81	.5310	.5310	17	64.71	54
	12-51	54	a 64.71	16.75	.0590	.0590	80	79	82	.7150	.7150	17	57.38	57
	12-58	57	57.38	16.75	.3100	.3100	80	80	80	.5850	.5850	17	69.42	60
	1-04	60	69.42	16.75	.2940	.2940	82	81	80	.5700	.5700	17	a 75.74	63
	1-36	63	a 75.74	17.00	.0215	.0215	82	81	84	.9260	.9255	17	a 85.69	66
	1-43	66	a 85.69	16.75	.1445	.1445	83	81	83	.6200	.6205	17	94.01	69
							FOURTH RUN.						
	1-48	69	94.01	b 16.75	.3350	.3350	81	81	82	.8090	.8090	17	a 85.69	66
	3-05	66	a 85.69	16.75	.0355	.0355	80	82	80	.9355	.9355	17	a 75.74	63
	3-17	63	a 75.74	16.50	.3330	.3330	80	82	81	.6105	.6105	17	69.42	60
	3-27	60	69.42	16.75	.2735	.2735	78	82	79	.5480	.5480	17	57.38	57
	3-35	57	57.38	17.00	0360	.0360	79	79	78	.6955	.6955	17	64.71	54
	3-50	54	64.71	16 50	.3440	.3440	79	79	79	.5225	.5225	17	a 68.95	51

a = Intermediate changes of grade as follows: At 51 + 97.85, 72.43; at 52 + 37.87, 72.45, and at 64 + 57.04, 86.27.

b = Rear balance broken No. 22 used after first break, after second No. 24. { Balances No. 22 and No. 23 read ¼ lb. too much; 24 correct, but sluggish.

c = Pierce, 1st and 2nd Runs; Wood 3rd and 4th Runs.

Weather.—First day, cloudy; second day, cloudy to some extent and very smoky; the sun was at times visible; a shadow was at times barely perceptible.

△ St. Michael is between 69 and 68 and the tape used, No. 5, was supported as the base tape was supported and on same grade.

MEASUREMENT 69 TO △ ST. MICHAEL.

Date.	Mark on Tape at Rear Station.		Temperature.			Mark on Tape at 0 of Scale.		Scale Reading.			Spring Balance No. 21.	
			at 0′	at 50′	at 100′							
	Observer.	Reading.	No. 24 ○ Taylor.	No. 22 ○ Wood.	No. 21 ○ O'Brien.	Observer.	Reading.	Observer.	Inst.	Reading.	Observer.	Reading.
Aug. 28, '94, 2.30 to 2.45 P.M.	H. D. Pollard.	0.81	83	83	82	Downman	96.000	Rogers,	R.	.8460	Disney.	15
	"	0.81	82	83	82	"	96.000	"	D.	.8445	"	15
	"	0.81	83	84	83	"	96.000	Morgan,	D.	.8450	"	15
	"	0.81	83	84	83	"	96.000	"	R.	.8475	"	15
	Rogers.	1.18	82	84	83	Morgan	97.000	H. D. Pollard,	R.	.2195	Sauner.	15
	"	1.18	82	84	83	"	97.000	"	D.	2195	"	15
	"	1.18	82	83	83	"	97.000	Downman,	D.	2190	"	15
	"	1.18	82	83	83	"	97.000	"	R.	.2190	"	15

Note: Scale was read by observer at instrument. Transit used B. and B. No. 2033.

HIGHLAND AVENUE BASE RECORD.

Date.		Station.	Elevation.	OBSERVERS. AT REAR END. Spr.B. No.22 Pollard.	Scale. Downman.	Scale. Pollard.	TEMPERATURE at 50′ Taylor. No.24 ○	at 150′ O'Brien. No.22 ○	at 250′ Billopp & Wood. No. 21 ○	AT FRONT END. Scale. Morgan.	Scale. Rogers.	Spr.B Kefauver. No.21	Elevation.	Station.
Aug. 30, 1894, P.M.	6–15	5th Run.	69	94.01	17	.3690	.3690	77	76	76	.8640	.8640	17	[a]85.69	66
			66	85.69	17⅛	.0260	.0260	74	75	72	.9505	.9505	17	[a]75.74	63
			[a]63	75.74	17⅛	.3495	.3495	72	71	72	.6445	.6445	17	69.42	60
			60	69.42	16⅞	.2900	.2900	73	72	72	.5785	.5785	17	57.38	57
			57	57.38	16½	.1265	.1265	73	73	72	.8065	.8065	17	[a]64.71	54
			54	64.71	16½	.3080	.3080	74	75	74	.5030	.5030	17	[a]68.95	51
	7–20	1st Run.	[a]51	68.95	17⅛	.3210	.3210	74	71	72	.5850	.5850	17	58.91	48
			48	58.91	17	.2345	.2345	72	72	72	.8525	.8525	17	48.91	45
			45	48.91	17	1615	.1615	72	71	70	.8840	.8840	17	38.71	42
			42	38.71	16⅞	2985	.2985	70	70	70	.7595	.7595	17	34.32	39
			39	34.32	16½	.2120	.2120	70.5	70	70	.7005	.7005	17	33.44	36
	8–10		36	33.44	16⅞	.1105	.1105	68	68	68	.5315	.5315	17	33.39	33

a = Intermediate changes of grade, as follows:

51 + 97.85 = 72.43

52 + 37.87 = 72.45

64 + 57.04 = 86.27

HIGHLAND AVENUE BASE RECORD.

August 31, and Sept. 1, 1894.

Date.	Station.	Elevation.	Observers.									Elevation.	Station.	
			At rear end.			Temperature			At front end.					
			Spr. B	Scale.		at 50′	at 150′	at 250′	Scale.		Spr. B			
			W. G. Pollard. No. 23	Downman.	H. D. Pollard.	Taylor. No. 24	O'Brien. No. 22	Bilopp. No. 21	Morgan.	Rogers.	Kefauver. No. 21			
8–30 P.M.	51	68.95	17	.3805	.3805	67	66	66	.6560	.6565	17	58.91	48	2nd Run.
	48	58.91	16½	.2600	.2600	66	65	64	.8905	.8905	17	48.91	45	
	45	48.91	16¾	.2195	.2195	65½	65	64	.9585	.9585	17	38.71	42	
	42	38.71	17⅓	.3520	.3520	65	64	64	.7900	.7900	17	34.32	39	
	39	34.32	17	.1580	.1580	65	64	63	.6900	.6900	17	33.44	36	
	36	33.44	16¾	.1540	.1540	63	62	62	.5860	.5855	17	33.39	33	
	33	33.39	16¾	.2980	.2980	63	63	63	.6305	.6310	17	46.22	30	1st Run.
	30	46.22	16¾	.3210	.3210	64	64	64	.5880	.5875	17	59.23	27	
	27	59.23	16½	.1735	.1735	64½	65	64	.8320	.8315	17	70.48	24	
	24	70.48	16¾	.2110	.2110	66½	67	66	.9540	.9535	17	80.78	21	
	21	80.78	17⅛	.3825	.3825	67	68	68	.8535	.8535	17	86.43	18	
	18	86.43	16¾	.3650	.3650	68	69	68	.8850	.8845	17	95.13	15	
	15	a95 13	17	.0580	.0580	68½	68	68	.6865	.6865	17	a102 45	12	
	12	102.45	17⅛	.0690	.0690	69	68	68	6110	.6110	17	102.53	9	
	9	102.53	17	.2280	.2280	68½	68	68	.6500	.6500	17	102.96	6	
	6	102.96	16¾	.2360	.2365	68½	69	70	.6615	.6615	17	102.53	9	2nd Run.
	9	102.53	16¾	.3035	.3040	68½	68	68	.8475	.8475	17	a102.45	12	
	12	102.45	17½	.2015	.2015	68	67½	68	.8295	.8295	17	95.13	15	
	15	a95.13	16½	.3270	.3270	68	67	68	.8490	.8485	17	86.43	18	
	18	86.43	16½	.3150	.3150	67½	66	66	.7905	.7905	17	80.78	21	
	21	80.78	17⅛	0260	.0260	65	65	65	.7700	.7695	17	70.48	24	
	24	70.48	16½	.0850	.0850	65	65	63	.7440	.7440	17	59.23	27	
	27	59.23	16⅝	.3900	.3900	65	64	62	.6555	.6550	17	46.22	30	
	30	46.22	16¾	.2150	.2150	64.5	64	60	.5490	.5490	17	33.39	33	
	33	33.39	16⅝	.3010	.3010	62.5	61	59	.7350	.7355	17	33.44	36	3rd Run.
	36	33.44	16½	.1210	.1210	62	61	60	.6550	.6550	17	34.32	39	
	39	34.32	16½	.3295	.3295	62.5	63	60	.7695	.7695	17	38.71	42	
	42	38.71	17	.0315	.0315	62	62	59	.7745	.7745	17	48.91	45	
	45	48.91	16½	.2490	.2490	62	62	59	.8825	.8825	17	58.91	48	
	48	58.91	16¾	.2785	.2785	63	62	60	.5590	.5590	17	68.95	51	
	33	33.39	16½	4200	.4200	61.5	61	58	.7565	.7565	17	46.22	30	3rd Run.
	30	46.22	16⅝	.3000	.3000	61	62	59	.5710	.5705	17	59.23	27	
	27	59.23	16½	.2900	.2900	62	64	60	.9525	.9525	17	70.48	24	
	24	70.48	16½	.2355	.2355	61.5	64	60	.9850	.9850	17	80.78	21	
	21	80.78	16½	.0460	.0460	64	64	60	.5250	.5250	17	86.43	18	
	18	86.43	16½	.0720	.0720	64	64	62	.5985	.5985	17	a 95.13	15	
	15	a95.13	16½	.1750	.1750	66	66	64	.8070	.8065	17	102.45	12	
A.M. 12–15	12	102.45	17	.1845	.1845	66	66	64	.7310	.7310	17	102.53	9	
	9	102.53	16¾	.2005	.2005	67	67	64	.6285	.6285	17	102.96	6	

a = Intermediate change of grade at 13 + 00 = 102.24.

51 found to have moved south .002 feet since 1st run of this set.

HIGHLAND AVENUE BASE RECORD.

Date.	Station.	Elevation.	Observers.											Elevation.	Station.
			At rear end.			Temperature				At front end.					
			Spr. B	Scale.		at 50'	at 150'	at 250'		Scale.		Spr. B			
			W. G. Pollard.	Downman.	H. D. Pollard.	Taylor.	Stinchcomb.	Bilopp.		Morgan.	Rogers.	Kefauver.			
			No 23			No 24	No 22	No 21				No 21			
									FIRST RUN.						
									○	○	○				
4.20 P.M.	0	117.16	17	.3350	.3350	79.5	80.0	76.0	.6945	.6940	17			113.76	3
	3	113.76	17⅛	.1215	.1215	79.0	79.0	76.0	.6500	.6495	17			102.96	6
	6	102.96	16⅜	.1785	.1785	78.5	79.0	76.0	.5900	.5900	17			102.53	9
	9	102.53	17	.3750	.3750	78.5	79.0	76.0	.8950	.8950	17			102.45	12
									SECOND RUN.						
September 1, 1894.	12	102.45	17½	.2295	.2295	78.0	79.0	76.0	.7500	.7500	17			102.53	9
	9	102.53	17	.2530	.2530	78.0	78.0	76.0	.6650	.6645	17			102.96	6
	6	102.96	17	.0990	.0990	78.0	78.0	76.0	.6290	.6290	17			113.76	3
	3	113.76	17	.2275	.2275	78.0	78.0	76.0	.5885	.5885	17			a117.16	0
									THIRD RUN.						
	0	117.16	16¾	.1820	.1820	78.5	78.0	76.0	.5445	.5440	17			113.76	3
	3	a113.76	17⅛	.1855	.1855	78.0	78.0	76.0	.7150	.7155	17			102.96	6
	6	102.96	17⅛	.2595	.2595	78.0	78.0	76.0	.6715	.6715	17			102.53	3
	9	102.53	16¾	.1365	.1365	78.0	78.0	76.0	.6580	.6580	17			102.45	12
									FOURTH RUN.						
5.00 P.M.	12	102.45	17⅛	.0810	.0810	78.0	78.0	75.0	.6040	.6040	17			102.53	9
	9	102.53	16⅛	.2145	.2145	78.0	78.0	75.0	.6265	.6265	17			102.96	6
	6	102.96	17⅛	.2050	.2050	78.0	78.0	75.0	.7360	.7355	17			113.76	3
	3	113.76	17¼	.1915	.1915	78.0	77.0	74.0	.5585	.5585	17			a117.16	0

a = Intermediate change of grade at 2 + 00 = 117.24.

Station 6 moved south between time of measuring this set and the preceding set 0.0142 ft.

Note: Use 6–9 and 9–12 compared with measurements obtained August 31, as a means of obtaining length of tape under conditions for the above runs.

HIGHLAND AVENUE BASE.

STATION 51 TO STATION 69.

Tape at 65° = 300.5183.

Coefficient of expansion = .000006.

FIRST RUN.

Stations. From	Stations. To	1 Foot Less Front Scale.	Rear Scale.	Sum of Front & Rear Scales	○ Temp.	○ Temp. — 65°	+ Temp. Correction.	Slope Distance.	Difference in Elevation.	Horizontal Distance.	v	v^2
									99.93 = 3.48	99.8694		
									40.02 = 0.02	40.0200		
51	54	.4215	.3877	.8092	73.3	8.3	.0149	299.7240	159.774 = 7.74	159.5864		
54	57	.1435	.1825	.3260	73.7	8.7	.0157	300.2080	7.33	300.1185		
57	60	.2175	.4925	.7100	73.0	8.0	.0144	299.8227	12.04	299.5809		
60	63	.3160	.3895	.7055	72.2	7.2	.0130	299.8258	6.32	299.7592		
									159.80 = 10.53	159.4527		
63	66	.0593	.0120	.0713	72.7	7.7	.0139	300.4609	140.6609 = 0.58	140.6597		
66	69	.4045	.0920	.4965	72.3	7.3	0131	300.0349	8.32	299.9195		
									Total.....	1798.9663	38	144

SECOND RUN.

										99.8694		
										40.0200		
54	51	.4675	.3400	.8075	72.7	7.7	.0139	299.7247		159.5871		
57	54	.1800	.1440	.3240	73.3	8.3	.0149	300.2092		300.1197		
60	57	.4685	.2400	.7085	73.3	8.3	.0149	299.8247		299.5829		
63	60	.3555	.3465	.7020	73.7	8.7	.0157	299.8320		299.7654		
										159.4527		
66	63	.0610	.0117	.0727	72.7	7.7	.0139	300.4595		140.6583		
69	66	.2095	.2877	.4972	72.3	7.3	.0131	300.0342		299.9188		
									See First Run.			
									Total.....	1798.9743	42	176

THIRD RUN.

										99.8694		
										40.0200		
54	51	.4970	.3080	.8050	74.3	9.3	.0167	299.7300		159.5924		
57	54	.1935	.1265	.3200	72.7	7.7	.0139	300.2122		300.1227		
60	57	.4215	.2900	.7115	72.3	7.3	.0131	299.8199		299.5781		
63	60	.3555	.3495	.7050	71.7	6.7	.0121	299.8254		299.7588		
										159.4527		
66	63	.0495	.0260	.0755	73.7	8.7	.0157	300.4585		140.6573		
69	66	.1360	.3690	.5050	76.3	11.3	.0203	300.0336		299.9182		
									See First Run.			
									Total.....	1798.9696	5	[illegible]
									Mean...	1798.9701		323

$$e = \sqrt{\frac{3233}{2}} = .0040.$$

$r = .0040 \times .6745 = .0027$ = Probable error of single run.

$$r_o = \frac{.0027}{\sqrt{3}} = .0016 = \text{Probable error of mean, or 1:1,124,356.}$$

HIGHLAND AVENUE BASE.

STATION 33 TO STATION 51.

Tape at 65° = 300.5183.

Coefficient of expansion = .000006.

FIRST RUN.

Station. From	To	Rear Scale.	1 Foot Less Front Scale.	Sum of Front and Rear Scales.	♂ Temp.	♂ Temp.—65°	Temp. Correction.	Slope Distance.	Diff. in Elevation.	Horizontal Distance.	v	v^2
51	48	.3210	.4150	.7360	72.3	+7.3	+.0131	299.7954	10.04	299.6273		
48	45	.2345	.1475	.3820	72.0	+7.0	+.0126	300.1489	10.00	299.9823		
45	42	.1615	.1160	.2775	71.0	+6.0	+.0108	300.2516	10.20	300.0783		
42	39	.2985	.2405	.5390	71.0	+5.0	+.0090	299.9883	4.39	299.9562		
39	36	.2120	.2995	.5115	70.2	+5.2	+.0093	300.0161	.88	300.0148		
36	33	.1105	.4685	.5790	68.0	+3.0	+.0054	299.9447	.05	299.9447		
									Total.....	1799.6036	2	4

SECOND RUN.

51	48	.3805	.3433	*.7218	66.3	+1.3	+.0023	299.7948	10.04	299.6307		
48	45	.2600	.1095	.3695	65.0	0.0	.0000	300.1488	10.00	299.9822		
45	42	.2195	.0415	.2610	64.8	—0.2	—.0004	300.2569	10.20	300.0836		
42	39	.3520	.2100	.5620	64.3	—0.7	—.0013	299.9550	4.39	299.9229		
39	36	.1580	.3100	.4680	64.0	—1.0	—.0018	300.0485	.88	300.0472		
36	33	.1540	.4143	.5683	62.3	—2.7	—.0049	299.9451	.05	299.9451		
									Total.....	1799.6117	83	6889

THIRD RUN.

48	51	.2785	.4410	*.7175	61.7	—3.3	—.0059	299.7909	10.04	299.6267		
45	48	.2490	.1175	.3665	61.0	—4.0	—.0072	300.1446	10.00	299.9780		
42	45	.0315	.2255	.2570	61.0	—4.0	—.0072	300.2541	10.20	300.0808		
39	42	.3295	.2305	.5600	61.8	—3.2	—.0058	299.9525	4.39	299.9204		
36	39	.1210	.3450	.4660	61.0	—4.0	—.0072	300.0451	.88	300.0438		
33	36	.3010	.2645	.5655	60.8	—4 2	—.0076	299.9452	.05	299.9452		
									Total.....	1799.5949	85	7225
									Mean	1799.6034		14118

* Decreased by .0020 on account of post at Station 51 moving south that amount between 1st and 2nd run.

$e = \sqrt{\frac{14118}{2}} = .0084$

$r = .0084 \times .6745 = .0057$ = probable error of single run.

$r_o = \frac{.0057}{\sqrt{3}} = .0033$ = probable error of mean or 1:543,819.

HIGHLAND AVENUE BASE.

STATION 6 TO STATION 33.

Tape at 65° = 300.5183

Co-efficient of Expansion = .000006

FIRST RUN.

Station.		Rear Scale.	1 Foot Less Front Scale.	Sum of Front & Rear Scales	Temp.	Temp.—65	Temp. Correction.	Slope Distance.	Difference in Elevation.	Horizontal Distance.	v	v^2
From	To											
33	30	.2980	.3693	.6673	63.0	—2.0	—.0036	299.8474	12.83	299.5728		
30	27	.3210	.4123	.7333	64.0	—1.0	—.0018	299.7832	13.01	299.5008		
27	24	.1735	.1683	.3418	64.5	—0.5	—.0009	300.1756	11.25	299.9647		
24	21	.2110	.0463	.2573	66.5	+1.5	+.0027	300.2637	10.30	300 0870		
21	18	.3825	.1465	.5290	67.7	+2.7	+.0049	299.9942	5.65	299.9410		
18	15	.3650	.1153	.4803	68.3	+3.3	+.0059	300.0439	8.70	299.9177		
15	12	.0580	.3135	.3715	68.2	+3.2	+.0058	300.1526	200.1526 = 7.11 100.00 = 0.21	200.0263 99.9998		
12	9	.0690	.3890	.4580	68.3	+3.3	+.0059	300.0662	.08	300.0662		
9	6	.2280	.3500	.5780	68.2	+3.3	+.0059	299.9462	.43	299.9459		
									Total.....	2699.0222	10	100

SECOND RUN.

30	33	.2150	.4510	.6660	62.8	—2.2	—.0040	299.8483	See First Run.	299.5737		
27	30	.3900	.3448	.7348	63.7	—1.3	—.0023	299.7812		299.4988		
24	27	.0850	.2560	.3410	64.3	—0.7	—.0013	300.1760		299.9651		
21	24	.0260	.2303	.2563	65.0	0.0	.0000	300.2620		300.0853		
18	21	.3150	.2095	.5245	66.5	+1.5	+.0027	299.9965		299.9433		
15	18	.3270	.1513	.4783	67.7	+2.7	+.0049	300.0449		299.9187		
12	15	.2015	.1705	.3720	67.8	+2.8	+.0050	300.1513		200.0250 99.9998		
9	12	.3037	.1525	.4562	68.2	+3.2	+.0058	300.0679		300.0679		
6	9	.2362	.3385	.5747	69.2	+4.2	+.0076	299.9512		299.9509		
									Total.....	2699.0285	73	5329

THIRD RUN.

33	30	.4200	.2435	.6635	60.2	—4.8	—.0086	299.8462	See First Run.	299.5716		
30	27	.3000	4293	.7293	60.7	—4.3	—.0077	299.7813		299.4989		
27	24	.2900	.0475	.3375	62.0	—3.0	—.0054	300.1754		299.9645		
24	21	.2355	.0150	.2505	61.8	—3.2	—.0058	300.2620		300.0853		
21	18	.0460	.4750	.5210	62.7	—2.3	—.0041	299.9932		299.9400		
18	15	.0720	.4015	.4735	63.3	—1.7	—.0031	300.0417		299.9155		
15	12	.1750	.1933	.3683	65.3	+0.3	+.0005	300.1505		200.0242 99.9998		
12	9	.1845	.2690	.4535	65.3	+0.3	+.0005	300.0653		300 0653		
9	6	.2005	.3715	.5720	66.0	+1.0	+.0018	299.9481		299.9478		
									Total.....	2699.0129	83	6889
									Mean.....	2699.0212		12318

$e = \sqrt{\frac{12318}{3}} = .0078$

$r = .0078 \times .6745 = .0053$ = probable error of single run.

$r_0 = \frac{.0053}{\sqrt{3}} = .0030$ = probable error of mean or 1 : 899.674

HIGHLAND AVENUE BASE.

STATION 0 TO STATION 6.

Tape at 65° = 300.5258 (measurement made in day time.)

Coefficient of expansion = .000006.

FIRST RUN.

Station. From	Station. To	Rear Scale.	1 Foot Less Front Scale.	Sum of Front & Rear Scales	Temp. °	Temp.—65° °	Temp. Correction.	Slope Distance.	Difference in Elevation.	Horizontal Distance.	v
									200.0 = 0 8	200.0000	
0	3	.3350	.3053	.6403	78.5	+13.5	+.0243	299.9098	99.9098 = 3.48	99.8492	
3	6	.1215	.3503	*.4576	78.0	+13.0	+.0234	300.0916	10.80	299.8972	
									Total.....	599.7464	2

SECOND RUN.

3	0	2275	.4115	.6390	77.3	+12.3	+.0221	299.9089	See First Run.	200.0000	
6	3	.0990	.3710	*.4558	77.3	+12.3	+.0221	300.0921		99.8482	
										299.8977	
									Total.....	599.7460	6

THIRD RUN.

0	3	.1820	.4558	.6378	77.5	+12.5	+.0225	299.9105	See First Run.	200.0000	
3	6	.1855	.2848	*.4561	77.2	+12.3	+.0221	300.0918		99.8499	
										299.8974	
									Total.....	599.7473	7
									Mean.....	599.7466	

* Decreased by .0142 on account of post at Sta. 6 moving South that amount.

$e = \sqrt{\frac{89}{2}} = .0007$

$r = .0007 \times .6745 = .0005$ = probable error of single run.

$r_{\circ} = \frac{.0005}{\sqrt{3}} = .0003$ = probable error of mean or 1:1,999,155

HIGHLAND AVENUE BASE.

TOTAL.

Station. From	Station. To	First Run.	Second Run.	Third Run.	v		v^2
0	6	599.7464	599.7460	599.7473	First Run....	27	729
6	33	2699.0222	2699.0285	2699.0129	Second Run.	193	37249
33	51	1799.6036	1799.6117	1799.5949	Third Run...	165	27225
51	69	1798.9663	1798.9743	1798.9696			
Sums.....		6897.3385	6897.3605	6897.3247			65203
		Mean.	6897.3412				

$e = \sqrt{\frac{65203}{2}} = .0181$

$r = .0181 \times .6745 = .0122 =$ probable error of single run.

$r_{\circ} = \frac{.0122}{\sqrt{3}} = .0070 =$ probable error of mean or1:985.334

HIGHLAND AVENUE BASE.

STATION 69 TO △ST. MICHAEL.

TAPE No. 5 = 100.0211. COEFFICIENT OF EXPANSION = .000006.

STATION. From.	STATION. To.	DISTANCE	TAPE CORRECTION.	TEMP. °	TEMP. CORRECTION.	DIFF. IN ELEVATION.	SLOPE CORRECTION.	HORIZONTAL DISTANCE.	v	v^2
69	△St. Michael.	96.0360	+.0203	82.7	—.0119	2.58	—.0354	96.0090	13	169
69	"	96.0345	"	82.3	—.0117	"	"	96.0077	26	676
69	"	96.0350	"	83.3	—.0123	"	"	96.0076	27	729
69	"	96.0375	"	83.3	—.0123	"	"	96.0101	2	4
69	"	96.0395	"	83.0	—.0121	"	"	96.0122	19	361
69	"	96 0395	"	83.0	—.0121	"	"	96.0122	19	361
69	"	96.0390	"	82.7	—.0119	"	"	96.0120	17	289
69	"	96.0390	"	82.7	—.0119	"	"	96.0120	17	289
							MEAN.....	96.0103		2878

$e = \sqrt{\frac{2878}{7}} = .0020$

$r = .0020 \times .6745 = .0013$ = probable error of single measurement.

$r_{\circ} = \frac{.0013}{\sqrt{8}} = .0005$ = probable error of mean, or 1:192.021.

△Highland to Station 69 = 6897.3412
69 " △St. Michael = 96.0103

△Highland " △St. Michael = 6801.3309

FORT AVENUE BASE.

△Jackson to △ Rodney, as per Fort-Avenue Base report	=7317.7730
Correction for accepted length of tape	= .0450
△Jackson to △ Rodney	7317.7280

The Highland-Avenue Base measurements should be combined by sections, instead of by runs. The result is the same, but the probable error would be different.

The probable error of the Mt. Royal Standard is .00142, as given by the United States Coast and Geodetic Survey. This and the probable error in length of the 300-foot tape =.00028 will appear, or at least have an influence, as a constant error applied 25 times on the Fort-Avenue Base, and 23 times on the Highland-Avenue Base. The probable errors of the measurements, and of the determination of the length of tape No. 5 and its use are not nearly so important, as they appear but once.

BEARING UPON TRAVERSE WORK.

The preceding tabulated comparisons of traverse and base distances, measured on Fort and Highland-avenues, is as good a test of the method of traverse distance measurement as can easily be obtained. The measurement of the total distances corresponds very nearly to the usual conditions. The 5 results are inside the required limit by .177′, .114′ and .154′ on the Fort-avenue line, and .297′ and .231′ on the Highland-avenue line. The tests of the separate lines

show that these results are not accidental or due to compensating errors. Only one line on each base is found to be outside the limit after adjustment. These are outside by .002′ and .005′, respectively.

It appears from these results that upon fairly smooth streets, when the tape is supported a great part of its length, the method gives too short distances. When the tape is suspended, and on very rough ground, the distance is made too long.

The tape entirely suspended is known to be too short, and too long when entirely supported. Now, it seems probable that the temperature is quite an important factor. If greater precision is required there is reason to believe it can be obtained in the following manner:

1. Subtract a constant for each time the tape is suspended for a distance of over 60 feet. This would be about .01′.

2. Add a constant for *sunshine*, or for a certain and peculiar condition of the temperature and atmosphere.

FORT AVENUE BASE.

COMPARISON OF BASE MEASUREMENT AND TRAVERSE MEASUREMENT.

Station.		Traverse Distances.								Base Dist.	$\frac{1}{15000} \times L + .04'$
		First.		Second.		Third.		Mean.			
From.	To.	Dist.	Error.	Dist.	Error	Dist.	Error.	Dist.	Error.		
0 of Base=											
△Jackson.	2749	531.454	—.054	531.471	—.037	531.464	—.044	531.463	—.045	531.508	.075
					×						
2749	2748	499.008	—.042	498.975	—.075	498.984	—.066	498.989	—.061	499.050	.073
2748	2747	508.060	+.034	508.001	—.025	508.063	+.037	508.041	+.015	508.026	.074
2747	2746	615.014	—.010	614.983	—.041	614.977	—.047	614.991	—.033	615.024	.081
2746	2745	817.898	—.079	817.894	—.083	817.888	—.089	817.893	—.084	817.977	.094
2745	2744	394.858	+.024	394.861	+.027	394.822	—.012	394.847	+.013	394.834	.066
			×		×		×		×		
2744	2743	426.147	—.087	426.159	—.075	426.143	—.091	426.150	—.084	426.234	.068
2743	2742	415.041	+.030	415.033	+.022	415.038	+.027	415.037	+.026	415.011	.068
			×								
2742	2740	1992.517	—.201	1992.552	—.166	1992.571	—.147	1992.546	—.172	1992.718	.173
2740	⌒△McHenry.	1335.160	+.020	1335.165	+.025	1335.184	+.044	1335.170	+.030	1335.140	.129
△Jackson.	⌒△McHenry.	7535.157	—.365	7535.094	—.428	7535.134	—.388	7535.126	—.396	7535.522	.542

FORT AVENUE BASE.

COMPARISON OF BASE MEASUREMENT AND TRAVERSE MEASUREMENT, WITH REGULAR TRAVERSE ADJUSTMENT.

Station.		Adjusted Traverse Distances.								Base Dist.	$\frac{1}{15000} \times 1.04$
		First.		Second.		Third.		Mean.			
From.	To.	Dist.	Error.	Dist.	Error.	Dist.	Error.	Dist.	Error.		
△Jackson.	2749	531.480	—.028	531.501	—.007	531.492	—.016	531.491	—.017	531.508	.075
2749	2748	499.032	—.018	499.003	—.047	499.010	—.040	499.015	—.035	499.070	.073
2748	2747	508.085	+.059	508.030	+.004	508.089	+.063	508.068	+.042	508.026	.074
2747	2746	615.044	+.020	615.018	—.006	615 008	—.016	615.023	—.001	615.024	.081
2746	2745	817.937	—.040	817.949	—.037	817.930	—.047	817.936	—.041	817.977	.094
2745	2744	394.877	+.043	394.884	+.050	394.843	+.009	394.868	+.034	394.834	.066
2744	2743	426.167	—.067	426.183	—.051	426.164	—.070	426.172	—.062	426 234	.068
2743	2742	415.062	+.051	415.057	+.046	415.060	+.049	415.059	+.048	415.011	.068
2742	2740	1992.613	—.107	1992.664	—.054	1992.673	—.045	1992.650	—.068	1992.718	.173
2740	ⓐ McHenry.	1335.225	+.085	1335.242	+.102	1335.253	+.113	1335.240	+.100	1335.140	.129
△Jackson.	ⓒ McHenry.	7535.522	.000	7535.522	.000	7535.522	.000	7535.522	.000	7535 522	.542

The above results are but slightly changed by the correction for tape length.

HIGHLAND AVENUE BASE.

CONNECTIONS WITH TRAVERSE STATIONS.

Station. From.	Station. To.	Distance.	Tape Correction.	Temp. °	Temp. Correction.	Slope Correction.	Horizontal Distance.
12	⊙2783	96.8400	+.0205	77	—.0087	—.0000	96.8518
21	⊙2784	185.5800	+.0392	77	—.0167	—.1100	185.4925
39	⊙2785	90.4800	+.0190	77	—.0081	— 0094	90.4815
51	⊙2786	118.0000	+.0249	84	—.0156	—.0484	117.9609
⊙2786	51	117 9850	+.0249	85	—.0163	—.0370	117.9566
51	⊙2786	Average of two preceding.					117.9587
66	⊙2787	147.5700	+.0312	78	—.0142	—.0010	147.5860
63	⊙2787	152.7900	+.0323	78	—.0147	—.3410	152 4666
66	⊙2787	Average from two preceding & Base Dist.					147.6152
69	⊙2788	250.8000	+.0300	76	—.0210	—.3390	250.4700
⊙2788	69	250.7750	+.0300	75.5	—.0203	—.3180	250.4667
69	⊙2788	Average of two preceding.					250.4684

HIGHLAND AVENUE BASE.

COMPARISON OF BASE MEASUREMENT AND TRAVERSE MEASUREMENT.

Stations. From.	Stations. To.	Traverse Distances. First. Dist.	First. Error.	Second. Dist.	Second. Error.	Mean. Dist.	Mean. Error.	Base Distance.	$\frac{L}{13000} \times .04'$
0	⊙2783	1296.572	—.041	1296.565	—.048	1296.569	—.044	1296.613	.126
⊙2783	⊙2784	988.384	—.141	988.458	—.067	988.421	—.104	988.525	106
⊙2784	⊙2785	1704.054	—.038	1703.949	—.143	1704.001	—.091	1704.092	154
⊙2785	⊙2786	1227.069	—.031	1226.969	—.131	1227.019	—.081	1227.100	.122
⊙2786	⊙2787	1233.486	+.009	1233.544	+.067	1233.515	+.038	1233.477	.122
⊙2787	⊙2788	698.026	+.023	698.040	+.037	698.033	+.030	698.003	.087
0	⊙2788	7147.591	— 219	7147.525	—.285	7147.558	—.252	7147.810	516

HIGHLAND AVENUE BASE.

COMPARISON OF BASE MEASUREMENTS AND TRAVERSE MEASUREMENTS WITH REGULAR TRAVERSE ADJUSTMENT.

Station.		Adjusted Traverse Distances.						Base Distance.	$\frac{L}{13000} \times .04' + .04'$
		First.		Second.		Mean.			
From.	To.	Dist.	Error.	Dist.	Error.	Dist.	Error.		
0	⊙2783	1296.612	—.001	1296.617	+.004	1296.615	+.002	1296.613	.126
⊙2783	⊙2784	988.414	—.111	988.497	—.028	988.456	—.069	988.525	.106
⊙2784	⊙2785	1704.106	+.014	1704.017	—.075	1704.061	—.031	1704.092	.154
⊙2785	⊙2786	1227.107	+.007	1227.018	—.082	1227.062	—.038	1227.100	.122
⊙2786	⊙2787	1233.524	+.047	1233.593	+.116	1233.558	+.081	1233.477	.122
⊙2787	⊙2788	698.047	+.044	698.068	+.065	698.058	+.055	698.003	.087
0	⊙2788	7147.810	000	7147.810	000	7147.810	000	7147.810	.516

This constant could be determined by a series of tests of the 300-foot tape on the Mount Royal Standard under varying conditions.

I have no further hesitation in recommending that the duplicate traverse measurements be discontinued. The benefit seems to be very slight, and, I think, the work can be checked in a more economical manner. Enough can be saved in a short time to pay for the base measurements or to run a great many traverse tie lines, which would give a better check for the general work than any number of re-measurements of lines a long distance apart.

The work reported has been done in a careful, thorough manner. I believe that each Assistant has performed his duty faithfully, and that the results are, as a whole, trustworthy. Hoping it will meet with your approval, this report is

Respectfully submitted,

GEO. P. WOOD,
Assistant Engineer.

REPORT OF

J. A. PAIGE, Ass't Engineer,

IN CHARGE OF

PRECISE LEVELING DIVISION.

BALTIMORE, November 6, 1894.

COL. H. T. DOUGLAS, *Chief Engineer:*

DEAR SIR:

I have the following report to make of the operations, comprising the precise leveling in the Topographical Survey of Baltimore, up to October 31, 1894.

The leveling instrument (Fauth Precise Level No. 862) was received July 10, 1893, and the determination of the instrumental constants were commenced the same day and completed July 11. The regular field work began July 12. The levels were started in the neighborhood of Boston and Canton streets, and the plane of reference, by your direction, for all elevations, was mean low water in Baltimore harbor. The plane had been determined some time ago by gauge readings conducted by the United States Coast and

Geodetic Survey. Along the water-front there are various bench marks established by the Harbor Board, the elevations of which were referred to this same plane. These bench marks are the tops of the marble posts which were set for the purpose of determining the Port Warden lines.

Levels were first run over the following named stones, and the Harbor Board's elevations differ with our elevations by the amounts given, viz.:

	Precise Levels.	Harbor Board Elevations.	Harbor Board Elevation is
B. M. "Boston"	26.335	26.335	0.000
" " "B"	23.778	23.816	0.038 high.
" " "Cigar"	28.561	28.531	0.030 low.
" " "Chesapeake"	17.090	16.961	0.029 "
" " "Anchor"	11.764	11.800	0.036 high.
" " "Wolfe"	5.950	5.858	0.092 low.
" " "Mallory"	5.498	5.394	0.094 "
" " "Fell"	7.692	7.630	0.062 "
" " "Broadway"	8.256	8.186	0.070 "
" " "Thames"	9.831	9.676	0.155 "
" " "Philpot"	6.751	6.642	0.109 "

In the above comparison all elevations are referred to B. M. "Boston."

An inspection of the ten bench marks show that, with the exception of B. M. "Anchor" and "B," the Harbor Board's elevations are all lower than ours. Also that the discrepancies increase with the distance going westward from B. M. "Boston." Furthermore,

the stones forming these bench marks nearly all set in the pavements, and some of them have become much worn down. In view of the above, it was not thought advisable to attempt a mean adjusted elevation of these B. M.'s for a starting point, but to assume the elevation of B. M. "Boston" to be correct as given by the Harbor Board elevations. This stone sets in the unpaved sidewalk, close to the curb-stone, and, from the condition of its top surface, it has evidently changed less in elevation than any of them. The elevation of B. M. "Boston" was accordingly considered correct, and is the origin of all the elevations in the city.

The methods followed in the work are such that, as far as possible, all constant errors entering the work will be eliminated. The errors due to curvature, refraction and imperfect adjustment of instruments can all be avoided at the instrument stations. But there is an error which cannot be entirely cancelled. Such a case would be where the line runs along a street of considerable grade, where the back sight would be (say) an average distance of 3 feet above the ground, and the fore sight would be 7 or 8 feet high. The difference in refraction for the two planes cannot be avoided, and its effect would appear in the result with the same sign, whichever direction the lines were run. Times to be avoided for such work as this are a clear, hot day in the summer, or a clear day in the winter with frost or snow on the ground.

The topography of Baltimore presents many cases where, for a short distance, the rise or fall in the

elevation is large. Work in the very hilly places was avoided, as far as possible, when refraction was supposed to be high.

All lines in the precise level system were leveled over twice, and the second line was run in a contrary direction to that of the first. This is supposed to eliminate the accumulated effect of the movement of level and rods (either rising or falling) between bench marks. It is an important feature of all leveling, where accurate results are expected. This effect of instrument movement, or ground constant, is noticeable in some of our Y-levels, where the lines were run once.

The total length of all lines leveled over is 140.97 miles. All lines being run twice, makes 281.94 miles of completed line. Of this 140.97 miles, one mile was run four times, and $\frac{1}{3}$ mile was run 3 times, which makes a total of 284.61 miles for all levels run. There are 606 bench marks in the city that have precise elevations. Eighty-eight of these were established in running Y-levels, and subsequently touched in the precise leveling. This gives for the 140.97 miles of line an average of one bench mark every 1,228 feet along the route. For the entire area of the city (30 square miles, land area,) there is at present an average of 20 bench marks to the square mile, or about one bench mark for every square of 1,181 feet on a side.

A classification of the precise bench marks in the order of probable permanency would be as follows:

64 are tops of the stones marking the new city boundary.
256 are ¼-inch copper bolts, leaded in sills of buildings and other masonry structures. About
223 are squares, about 1 inch diameter, cut on sills of buildings, etc.
17 are harbor stones, 4x4x18 feet.
11 are iron pipes, 30 inches long.
16 are copper nails in roots of large trees.
19 are iron nails or spikes in roots of large trees.

606

In these 606 bench marks there are 23 closed polygons, which give for 23 bench marks, 2 elevations. These pairs of elevations differ from 0.001 foot to 0.070 foot. This largest difference is at Walbrook (B. M. 1095), and is the closure of a polygon nineteen miles in perimeter. For this amount it was not thought worth the time to make a rigid adjustment of all the polygons, as the greatest correction would be less than three-eighths of an inch.

The total expenses of the precise leveling is shown in the statement given herewith. This gives the expenses only which are strictly incidental to the work. It includes the salaries of all engaged and expenses connected therewith, such as car fare of employees, cost of copper and lead for bench marks, note-books and other stationery. It does not include any portion of office administration expenses, or first cost of the instruments and tools, nor does it include the labor and material in blue printing the B. M. sketches. The

total expense obtained thus for precise leveling is $3,321.79. This, for the 140.97 miles, gives the cost for both field and office work $23.56 per mile. The cost of the precise leveling in the survey of St. Louis is given as $45.38 per mile.

The computed probable error per 1,000 meters is usually taken as the standard for comparison in this kind of work. On the Baltimore survey it is 0.614 M. M.—about 0.002 foot per kilometer, or about 0.003 foot per mile. Below is given the same date for other lines of precise levels.

Coast Survey Transcontinental Line of Precise Levels, from Sandy Hook to St. Louis, the probable error per kilometer runs from 0.94 M. M. to 1.18 M. M.

Coast Survey line, from Mobile to St. Louis, runs from 0.74 M. M. to 1.25 M. M.

Mississippi River Commission line, from St. Paul to Savanna, Illinois, 0.62 M. M.

From New Orleans to the Gulf of Mexico, 102 miles (my work), 0.69 M. M.

*St. Louis Survey, 0.25 M. M. (?)

Baltimore Survey, 0.614 M. M.

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*The probable error per mile for the St. Louis work Mr. Colby gives as 0.001 foot. This is certainly in error, as the data he gives in his paper reduces to 0.003 foot per mile = 1.0 M. M.

The field work is contained in thirty-five note-books, numbered from 1 to 35, and marked "Precise Levels" on the back. All the office records of the work are contained in three volumes, being, respectively, "Description of Bench Marks," "Reduction of the Field Notes," and the "Tabulation of the Results." The volume of Reductions contains the necessary references for finding the notes in the field books for any bench mark.

The level furnished by Fauth & Co. for this work is an excellent instrument. It is far superior to the Swiss instruments which I used in the West. At present it is practically as good as new.

The rods made by Gurley & Co. were found to be: Rod 8 =3000.6 millimeters long; rod 9 =2999.4 millimeters long. This reduced the mean to the exact length, as indicated by the figures and graduations on the rods, and avoided any rod correction in the results, as both rods were used simultaneously on all lines. It might be stated that an error of one-thousandth of a foot in length of rods would produce a correction of nearly one-half inch in the highest bench mark in the city.

Viewing the work now, I can say that the cost has been a little less than I expected for city work, and that the results are better than I anticipated. A section where there are so many and sudden changes from sun to shade, hot and cold-air currents, and the vibrations from vehicles is not favorable to the highest degree of precision in this class of work.

Very respectfully,

JAMES A. PAIGE,

Assistant Engineer.

REPORT OF

O. W. CONNET, Ass't Engineer,

IN CHARGE OF

TOPOGRAPHICAL DIVISION.

BALTIMORE, December 13, 1894.

COL. H. T. DOUGLAS, *Chief Engineer:*

DEAR SIR:

In accordance with your instructions, I beg to submit a report of the operations of the Topographical Division of the Topographical Survey of the City of Baltimore to December 1, 1894.

By your direction I took charge of the Topographical Division on June 16, 1893. Since that time the force of this Division have been engaged on four branches of the work.

1. The re-establishment and retracing of the North and East Boundary lines of the Annex.
2. A small amount of tertiary triangulation.
3. A small amount of steel tape traverse work, and
4. The topographical work proper.

NORTH AND EAST BOUNDARIES.

The original location of the new boundary lines of the Annex was made in 1888, and the lines marked by wooden hubs. Most of these have been destroyed.

The Northwest Corner and a number of hubs on the North Boundary, however, were found. The Northeast Corner was gone, and no hubs were found on the Eastern Boundary. It was necessary, therefore, to retrace these lines as nearly as possible and re-establish the Northeast Corner.

One party was engaged on this work from June 21 to August 2, 1893.

The present Northeast Corner was established by producing the North and East lines to an intersection. After these two lines had been established they were examined by County Surveyor Charles B. McLean, of Baltimore county, and accepted by him.

TERTIARY TRIANGULATION.

On August 2, 1893, it was decided to locate a number of points in the vicinity of Jenkins' Run by tertiary triangulation. A system of ten stations, starting from traverse lines on North avenue and York road, and closing on a traverse line on Harford road, near the Belt Railroad, was established. This work was experimental and not very satisfactory, owing to the facts that there were too many obstructions to the location of triangles of good proportions and the inexperience of the party detailed for the work. It was, therefore, decided to locate the tertiary points by steel tape traverse.

TRAVERSE WORK.

On August 14 one party under my charge was directed to complete some traverse lines in the northeastern part of the city by steel tape measurements and repeating the angles.

These lines were from a point on the North Boundary, about one-quarter mile east of the York road to the Northeast Corner; from there to △ Napkin; from there to a point on the Eastern Boundary at Herring Run; also a line along the Hillen road from the North Boundary to Harford road.

TOPOGRAPHY.

The principal work of this Division has, of course, been the Topography. The general plan was to make a complete survey of the city, locating all the details which could be shown on a scale of two hundred feet to one inch, or 1:2400, and enough elevations to draw in five-foot contours with accuracy.

The topography is based on the triangulation system of the city, and also on a number of traverse stations accurately located by steel tape measurements.

All elevations are based on a system of precise bench marks distributed over the city and referred to mean low water at Baltimore as the datum.

At the beginning of the work the location of precise points had not progressed far enough to furnish data for the topographers, except such preliminary

results as could be had in the field. Afterward it was decided to have all the precise points to be used for the property survey located in advance of the topographical work and to furnish the elevations of the traverse stations by means of "Y" levels.

The regular work of topography was begun on July 5, 1893, by one party.

Owing to the fact that the men assigned to this division had had no previous experience on topographic work, it was necessary to spend some time in teaching them what was wanted and the methods to be used.

METHODS.

Three methods of taking the field notes and making the field sheets have been used.

1. The method by transit and stadia, with the notes worked up and the plotting done in the office.

2. By plane table and stadia.

3. By transit and stadia, with the notes worked up and plotted in the field.

First. The method used at the beginning, for the location of details and determination of elevations, was that by means of transit and stadia, the notes being worked up and plotted in the office. The sheets were then taken into the field and the contours drawn in. This method was begun on July 5, and continued by one party until September 26, 1893, when it was decided to abandon it.

The organization of the party while this method was in use was as follows:

One topographer, one recorder, two stadia men and one axman. The area covered in this way lies east of the York road and north of North avenue, and embraces an area of about 2.8 square miles.

Second. The method by plane table and Stadia was begun on September 12, 1893, and continued by one party until October 17, 1893.

The work of this party was on sheet 2 N. 1 E.,—1 and parts of 2 N. 1 E.—3 and 4. On February 1, 1894, another party was started with the plane table and stadia and on March 2, 1894, a second party. These two parties continued work near the northwest corner of the city until April 1, 1894.

Johnson Plane Tables and Fauth Alidades were used. The latter had telescopes with fixed stadia wires and vertical arc with level attached to the vernier.

This method is valuable for certain classes of topographical work, but it was found not to be well adapted to work on this scale, where so many details were to be located.

The area covered by this method was two square miles.

Third. The present method of taking topography by transit and stadia and making the field sheets com-

plete in the field was begun by one party on September 26, 1893; by a second on October 17, 1893, and by a third on April 9, 1894.

As over three-fourths of the work was done by this method, it may be of interest to mention briefly the details of the method as indicating the value and reliability of the maps produced.

As before stated, the scale adopted was 200 feet to 1 inch, or 1:2400. It was required to locate all streets, alleys, lanes, drives and roads; all fences, walls and hedges; all public buildings, churches, schools, factories, shops, depot buildings and warehouses in all parts of the city, and all residences, etc., west of Fulton avenue, north of North avenue and east of Patterson Park avenue; all railroads and street railways, indicating by signs whether electric, cable or horse-car lines; all streams, creeks, ravines, lakes and ponds; all property and street corner stones; to measure the width of all streets, alleys, etc., and record their names and the character of paving and other improvements; to obtain, as far as could be done in the field, the names of estates and large property owners, and of all public and large private buildings.

Some of the above requirements were not at first ordered, but have been added from time to time as the survey progressed; others have been modified in particular cases.

It was required to make the survey as accurate and complete as possible.

The instruments used were Fauth Transits No. 833, No. 838 and No. 894. These are high-grade instruments, with fixed stadia wires and full vertical circles. The horizontal and vertical circles are graduated to twenty minutes, with verniers reading to thirty seconds. The vernier of the vertical circle has a level attached, the value of one division of which is thirty seconds. This level is one of the important attachments of a first-class topographical instrument.

The interval between the stadia wires is such that 4.9 feet on the rod represents 100 meters of distance. The stadia board used is 12 foot long and 5 inches wide. The total length of it represents 245 meters. The figures used are similar to those used on the United States Lake Survey, and are arranged symmetrically with reference to the centre of the board, so that either end may be held on the ground.

The drawing board on which the sheet is fastened, is 18″x24″ and mounted on a strong tripod.

The protractor is a half circle eight inches in diameter, and made of German silver. The diameter is graduated each way from the centre to plot meters (1:2400). The circumference is graduated to 15 minutes, and the 10 degrees are numbered from right to left. A needle point is attached to the centre of the diameter.

In addition to the above, each party is furnished with a flat box-wood scale (1:2400), divided to feet

on one edge and meters on the other. A 50-foot metallic tape, a large umbrella to shade the drawing board, a waterproof sheet case, stake bag, hatchet, etc.

The party is furnished with a field sheet 18x24 inches, of heavy mounted paper. The sheet inside the border lines is 13.2x13.2 inches, and covers an area of 160 acres, or ¼ square mile.

All triangulation and traverse stations are plotted on the sheet by co-ordinates in the office. A list of the length and azimuth of the lines joining these stations is furnished, and another with the co-ordinates and elevations of all the stations. These are pasted in the note book. A list of references of the stations is also furnished.

With this data, the party goes into the field and makes a complete map before the sheet is returned to the office.

The organization of the party is as follows:

One topographer in charge of the party, one recorder, one draughtsman, one elevationman, two stadia rodmen.

This organization is the most economic, as all the operations are carried on simultaneously.

The topographer reads the distance, azimuth and vertical angle; the draughtsman plots the shots, num-

bering them consecutively; the recorder records the shots and works out the elevations; the elevationman takes out the differences and assists the others.

All readings are taken on true azimuth.

After all the readings have been taken, and the topography plotted, the elevations are put on the sheet and the contours drawn in, and the party moves up to the next station.

It is an important feature of this method that all the details of the topography and contours are drawn to scale with the ground before the topographer, and no part is left to memory.

By this method, 200 to 300 shots are taken in a day and the work plotted up. The number of shots depending on the amount of details, aside from the shots, which have to be plotted up.

The experience gained by all the parties has greatly increased the speed.

All of the elevations of the shots are checked before the contours are inked in.

The information of the note-book, etc., has been thoroughly indexed, so that any information desired may be easily found.

THE RESULTS.

The area covered by topography to December 1 is all of the Annex except about 25 or 30 acres in the

vicinity of Edmondson avenue, west of Pulaski street; about 3¼ square miles inside the old city limits and a narrow border outside the boundaries of the city.

To be more exact, the area is 13,338 acres, or 20.8 square miles.

Of this area 1,787 acres, or 13.4 per cent., was done by the first method of transit and stadia; 1,290 acres, or 9.7 per cent., by the plane table and stadia method, and 10,261 acres, or 76.9 per cent., by the present method of transit and stadia.

In this area there were taken 134,209 shots, or 10 shots per acre.

Beside this, there were probably 20,000 tape measurements of houses, width of streets, etc.

A large number of the shots taken were for location of details, but in most cases the elevations were taken so that there is probably 90 per cent. of the shots which have elevations. This indicates how large a number of elevations were used to draw in the contours.

A large amount of the work of locatian is due to the number of streets, alleys and houses located.

There were 170 miles of streets and 43 miles of alleys located, many of them crooked and irregular in widths, and not at right angles to each other.

There were 18,340 houses located and plotted on the sheets; the greater part of them isolated, many of them with the sides oblique to each other.

RECAPITULATION.

Total area surveyed, 13,338 acres.	20.8	sq. miles.
Length of streets located.....	170	miles.
" " alleys located.....	43	"
Number of houses located.....	18,340	
" precise points occupied.	1,147	
" stadia stations occupied.	2,320	
" shots taken.....	134,209	
Average number shots per acre...	10	

The work has been carefully done and all the notes checked. This, with the above figures, warrants me in the belief that no large city has a better or more complete topographical map than the one now being made by the city of Baltimore.

The Assistant Engineers who have at various times been in charge of field parties in the Topographical Division are as follows: W. R. Warfield, Assistant Engineer, June 21 to September 11, 1893; Victor Hagman, Assistant Engineer, June 21 to October 3, 1893; J. W. Crisfield, Assistant Engineer, September 12 to November 30, 1893; Calvin Whitely, Jr., Assistant Engineer, October 19, 1893, to October 15, 1894; J. R. Downman, Assistant Engineer, February 1 to March 31, 1894; R. A. MacGregor, Assistant Engineer, March 1 to October 31, 1894; J. W. Crisfield, Assistant Engineer, March 1 to December 3, 1894.

Much of the credit of the excellence of the work done is due to Messrs. R. A. MacGregor, Calvin Whitely, Jr., J. W. Crisfield and J. R. Downman, who did the greater part of the topographical work. The faithful and efficient manner in which they executed the field work deserves especial mention and commendation.

It is only just to say that the faithful work of all members of the Division has been noticed and appreciated.

Respectfully submitted,

O. W. CONNET,
Assistant Engineer.

ANNUAL REPORT

—OF THE—

TRUSTEES OF THE POOR

—OF THE—

CITY OF BALTIMORE,

—TO THE—

MAYOR AND CITY COUNCIL OF BALTIMORE,

—FOR THE—

FISCAL YEAR ENDING DECEMBER 31, 1894.

OFFICERS OF THE INSTITUTION.

BOARD OF TRUSTEES:

JOSEPH FRIEDENWALD, *President.*

JOHN BLACK, *Secretary.* JOHN J. PENTZ,
SIMON I. KEMP, JOHN J. HOFFMAN,
IRA REMSEN, GEORGE A. BLAKE.

C. W. LEWIS.....Superintendent.
JOHN M. McELROY.....Purveyor.
JOHN R. HAMMETT.....Clerk and Storekeeper.
SUSANNA McCAHAN.....Matron.
JAMES J. FARRALL.....Engineer.
WILLIAM MONTGOMERY.....Assistant Engineer.
JOHN F. BARRENGER.....Gardener.
THOMAS CONNOR.....Messenger.
CHARLES JONES.....Baker.
PATRICK BUTLER.....Carriage Driver.

Medical Department:

DR. FRED'K S. CARUTHERS...Resident Physician.
DR. H. H. HAYDEN..... " "
DR. JAMES A. WEST.....{ Resident Physician for Insane Department.
DR. C. W. DIDENHOVER.....{ Ass't Resident Physician for Insane Department.
JAMES A. TIERNEY.....Apothecary.

REPORT.

BAY VIEW ASYLUM, December 31, 1894.

To the Honorable the Mayor
and City Council of Baltimore:

GENTLEMEN:

We have the honor to present you with our annual report, in which you will find a detailed statement of the management of this charitable institution, the labors and responsibilities of which, under a progressive and humane administration, have been improved and enlarged so as to fully meet the requirements and necessities in administering this public charity.

The enlargement of our city and the natural increase of its population made it encumbent upon the Trustees to avail themselves of every available space in the entire building so as to accommodate those who ask for admission.

The phenomenally bad condition of our entire country has had its effect on all classes of people, but even to a greater extent on those who are termed the laboring classes.

The privation and suffering for the want of employment have been greater than at any previous time. We have met this condition, and extended to those who were sick and needy all the protection that their condition required, and fully responded to the dictates of common humanity.

There can be no doubt that in every large city ther are those who, from various causes, become a charge upon the public.

Mental and physical strength are great factors in the development of the successful, and as these attributes vary so very much, it is plain that the survivors of the fittest are always in front in the race of life; but we can truly say that the general character of the Bay View inmate is good.

We have very few that can be classed among the criminal and vicious, but suffer possibly from want of physical and mental energy and other enervating conditions. Their general behavior is commendable. It hardly ever occurs that among its many inmates there is any one who becomes disobedient or refractory.

There seems to be a singular fatality which follows the individual as well as entire families, and who eventually become a charge upon those who are more favored. Every well-regulated community makes

ample provision for the care of those who are in a needy and distressed condition.

We believe that our city stands foremost in this line of public charity, and the needy and afflicted have every comfort that the highest civilization could demand.

It has been frequently stated that we treat our poor too good; it would be the most difficult of all undertakings to measure how much or how little of benevolence should be meted out to this or that individual.

It has always been the aim of the Trustees of Bay View to administer its charity with a full and open hand, looking to the physical as well as to the moral needs of its inmates. While we have kept no record of those who have been its beneficiaries, we know that many who were at one time or another inmates of Bay View have become to a degree regenerated and gone back to their usual social conditions, and have become self-supporting.

OLD AND INFIRM—CHRONIC DEPARTMENT.

We state as a matter of great pleasure that this department serves, in a humanitarian point of view, one of the greatest objects of public charity, comprising, as it does, old and worn-out people of both sexes, who, in due course of time, become homeless and friendless.

Many a family at one time enjoyed the comforts of their own domicile, and were known and respected among their fellow-neighbors.

These for the most part entered the portals of Bay View from sheer want and privation, and not from fault of their own. Morally, we look upon this class as quite equal to the average citizen, and it has been the earnest solicitude of the Trustees to make them as comfortable as possible under the surrounding circumstances.

MEDICAL DEPARTMENT.

We take great pleasure in stating that the Medical Department renders efficient and good work. It is not too much to say that it will compare favorably with similar institutions. The Physicians are attentive to their duties and every facility is given them to administer to the comfort of the patients, and the apparent result has been that we have a remarkably low death rate.

The Board of Trustees beg to acknowledge their thanks to the resident physicians, Drs. Caruthers, Hayden, West and Didenhover, and to the visiting professors of the University of Maryland, College of Physicians and Surgeons and of the Johns Hopkins University for their faithful and regular attendance.

INSANE DEPARTMENT.

The Trustees take great pleasure in saying that since the practical separation and treatment of the insane from the general department it has been more than gratifying in its results, and is under the charge of separate and distinct medical attendants, all under the direct control of the Johns Hopkins University, who have paid great attention to its continued betterment, so that now we can point with pride to its efficiency in the treatment of the various degrees of insanity. The Lunacy Commission of the State of Maryland, in their annual reports, have spoken words of high commendation in its favor, and we believe that it compares favorably with any similar institution in this country.

We take this occasion to render our thanks to the Johns Hopkins University for their past as well as for their continued efforts.

We acknowledge the very valuable services rendered by Dr. Henry M. Hurd, Dr. H. J. Berkeley, Dr. Van Ness, Dr. Edwin M. Singewald and Dr. George H. Williams, and they are eminently entitled to the thanks of the Trustees of Bay View and the city of Baltimore.

FARMING OPERATIONS

The result of last year in our farming operations has been quite satisfactory. The entire grounds are utilized and a fair crop of the various vegetables was raised,

which supplied in a large measure the whole household, the result of which was a considerable saving, and added much to the general health of the establishment.

We are making extensive preparations for next year, and have done much to that end, utilizing all the labor we can, so that the best results will be obtained.

In conclusion, the Board of Trustees take pleasure in stating that the discipline which has prevailed during the year has been admirable, and we hereby tender our thanks to the several officers, matrons, etc., for the prompt discharge of their duties and for the interest they have at all times manifested to promote the welfare and comfort of the inmates.

Respectfully submitted,

JOSEPH FRIEDENWALD, *President*,
JOHN BLACK, *Secretary*,
SIMON I. KEMP,
IRA REMSEN,
JOHN J. PENTZ,
JOHN. J. HOFFMAN,
GEORGE A. BLAKE.

REPORT OF THE INMATES.

There were remaining in the institution, December 31, 1894	1,641
There were admitted during the year	3,854
There were born in the institution during the same period	16
Making a total of	5,511
The average number of inmates during the year was	1,345 $\frac{7}{12}$
The amount drawn as per warrant upon the City Comptroller during the year was	$104,999 71
The amount paid City Register	1,454 24
Actual amount expended	$106,453 95
Average number of inmates	1,345 $7\frac{7}{12}$
Cost per capita	76 $95\frac{21}{100}$

FINANCIAL.

Exhibit No. 1 of this report will show the amount received and the source from whence it was derived during the year, as also the purpose for which it was expended.

The amount of appropriation made by the city for the support of the institution for the year ending December 31, 1894, was $105,000. By reference to the

aforesaid exhibit it will be observed that of the amount appropriated $104,999.71 was drawn from the city treasury, and $1,454.24 was paid to the City Register from board of inmates, resident students and for sale of old material, such as rags, bones, barrels, etc., received; also returned to the city treasury 29 cents, amount of appropriation unexpended. The amount drawn from the city treasury has enabled the Trustees to meet and discharge all liabilities incurred by them in the management of the trust confided to them. The Trustees, owing to the increased number of inmates, find it necessary to ask for an appropriation of $110,000 for the year of 1895.

BALTIMORE, December 31, 1894.

To the Board of Trustees of the Poor:

GENTLEMEN:

I herewith submit the annual financial report of the Trustees for the year ending December 31, 1394.

Yours with great respect,

JOHN M. MCELROY,

Purveyor.

FINANCIAL EXHIBIT FOR 1894.

Showing the amount received by the Trustees during the year terminating December 31, 1894, the source from whence derived, and the purpose for which disbursements were made, and the amount expended.

Dr.			Cr.		
1894.			1894.		
Dec. 31—To amount received from City Comptroller on account of annual appropriation.	$104,999	71	Dec. 31—By balance paid for supplies, embracing food, fuel, clothing, bedding and other necessaries.....	63,573	32
To amount received for sale of bones, grease, barrels, old iron, offals, etc.....	181	49	By amount expended on farm account, embracing provender for horses and cows, repair of carriages and wagons and harness, purchase and repairs of farm implements, shoeing animals, and such other expenditures as are properly		
To amount received from inmate boarders.....	915	00			
To amount received from board of resident students.....	300	00			
To amount received from sale of medicines.....	25	25			

To amount received from sale of live stock.	32 50	chargeable to farm account.....	6,058 54
		By amount paid for hospital stores. ...	4,976 87
		By amount paid for expenses incurred in repairs about the buildings and fences.	8,077 11
		By amount paid for salaries and hire account.....	20,807 87
		By amount paid Trustees per diem.....	1,506 00
		By amount paid City Register, as required by ordinance of the city.....	1,454 24
	$106,453 95		$106,453 95

FINANCIAL EXHIBIT FOR 1894—Continued.

Amount drawn from City Treasurer...	$104,990	71
Amount paid City Register.....	1,454	24
Actual amount expended.....	$103,545	47
Average number of inmates.....	1,345	00 7/12
Cost per capita.....	$ 76	95 29/100
Amount of appropriation.....	105,000	00
Amount expended.....	104,999	71
Amount unexpended remaining in city treasury.....	$	29

SUPERINTENDENT'S REPORT

—AND—

TABULAR STATEMENT

—OF THE—

SUPERINTENDENT,

MARKED A TO M,

FOR THE YEAR 1894.

REPORT.

BALTIMORE, December 31, 1894.

To the Board of Trustees of the Bay View Asylum:

GENTLEMEN:

I most respectfully beg leave to submit my annual report for the year ending December 31, 1894.

During the year just ended we would have had a much larger average of inmates had it not been for the system adopted of giving applicants relief for short periods (one and two weeks). The health of the inmates has been good, and our death-rate is less than in my last report.

Many improvements have been made during the year. The buildings have been put in repair. Painting and white-washing are being carried on all the time. All the wood-work is looking bright and fresh, and the buildings are in excellent sanitary condition. The grounds, fences and out-buildings have been put in repair, and cement floors are now being put in the cellars. I have kept employed as many inmates as was possible, and tried to prevent idleness. I have endeav-

ored to make the inmates comfortable, using kindness rather than harshness, at the same time enforcing discipline.

The spiritual welfare of the inmates has not been neglected. Religious services by ministers of various denominations are held on Sunday and during the week.

The system adopted by you, of Superintendent issuing all orders for stores, etc., and of hearing daily reports of officers, has worked well and is a success. Let me suggest to your Honorable Board the necessity of looking after a class of inmates (non-resident) who make Bay View their winter home. A good many come here ostensibly to go oyster dredging, make one trip and become sick and badly used up. We are compelled to take care of them. Another class never make a trip, but live on their wits and what they can take from those who will work. It is to this latter class that I call your particular attention. Humanity compels us to take them in, if they are sick, and keep them until they are able to provide for themselves. But for those who are only indolent, you, gentlemen, should devise some means to prevent their admittance into Bay View. Let me suggest that you reserve a sum of money to furnish transportation out of the State to the nearest large city on their way home, this amount to come out of our annual appropriation. This seems to me to be a better and cheaper plan than giving them a home.

I also most respectfully recommend that in the coming year, you, gentlemen, devise some means of providing work for the able-bodied inmates, so that we may be able to judge who are the worthy ones, and to weed out the unworthy.

I think during cold weather, and especially at this time, that we should have a physician at the City Hall to examine all applicants, to prevent contagious diseases getting into the asylum. I notice, at this time, that small-pox is close at hand.

I have been informed recently that there is a certain amount set apart by the State for the maintenance of insane convicts. As we have several here, I most respectfully call your attention to this fact, that you may take steps to collect board for them.

The officers, matrons and attendants have been faithful in discharge of their duties, and whenever I have called upon them, day or night, they have responded promptly and willingly. I wish to thank Purveyor McElroy for his co-operation and the promptness with which he has responded to my wants. We are fortunate to have such an efficient corps of physicians. I must say our resident physicians, Drs. Caruthers Hayden and West, have attended to the wants of the sick faithfully and with rare ability.

Good work among the unfortunates has been done by Rev. Dr. Leakin and Father Zelles, the Local Preachers' Association M. E. Church, German Lutheran Association and St. Vencent de Paul Society. I am much indebted to them for their assistance.

In conclusion, gentlemen, permit me to thank you for your confidence and the friendly feeling you have manifested toward me.

I shall endeavor in the future, as in the past, to maintain strict discipline and govern with kindness and discretion, and, I trust, to your entire satisfaction.

Respectfully submitted,

COLUMBUS W. LEWIS,

Superintendent.

TABLE A.

Showing the Number of Persons Admitted, Born, Discharged, Eloped and Died; also the Number Remaining at the Expiration of each Month, for the Year ending December 31, 1894.

1893.	Admitted.	Born.	Discharged.	Eloped.			Died.	Remaining.
				From Bay View	From Pass.	Total.		
January ..	651	1	515	3	24	27	24	1,732
February...	457	1	374	3	29	32	12	1,772
March	195	1	561	1	12	13	28	1,366
April	176	.....	256	2	24	26	13	1,247
May	134	2	200	4	25	29	18	1,136
June..	154	2	98	3	15	18	15	1,161
July	221	1	186	2	12	14	21	1,162
August....	204	2	164	3	16	19	15	1,170
September.	270	.....	180	4	17	21	13	1,226
October....	353	3	249	5	19	24	22	1,287
November.	394	2	196	9	30	39	25	1,423
December.	645	1	390	3	20	23	25	1,641
Total..	3,854	16	3,369	42	243	285	221	16,323

On the books December 31, 1893..... 1,646

Total ingress..... 3,870

5,516

Total egress..... 3,875

In the house December 31, 1894..... 1,641

TABLE B.

Showing the Birthplace of Persons Admitted to the Almshouse from January 1, 1894, to December 31, 1894, inclusive.

NATIVES.		FOREIGNERS.	
Baltimore	857	Ireland	922
Maryland	406	Germany	473
New York	169	England	151
Pennsylvania	168	Scotland	64
Virginia	135	Sweden	24
Massachusetts	58	Canada	21
District Columbia	32	France	21
New Jersey	19	Austria	22
Ohio	17	Poland	18
West Virginia	22	Russia	18
Delaware	15	Denmark	15
Illinois	15	Belgium	10
Georgia	14	Switzerland	10
North Carolina	13	Wales	9
Connecticut	11	Bohemia	8
Maine	10	Italy	7
Missouri	10	Norway	5
Kentucky	9	Holland	5
South Carolina	9	West Indies	4
Rhode Island	8	Finland	2
Tennessee	7	Spain	1
Michigan	7	Australia	1
Texas	6	Argentine Republic	1
Florida	5		
Iowa	4		
Louisiana	4		
California	3		
Colorado	2		
Vermont	1		
Wisconsin	1		
Almshouse	16		
Unknown	5		
	2,058		1,812
		Natives	2,058
		Total	3,870

TABLE C.

Showing the Ages of Persons Admitted to the Almshouse from January 1, 1894, to December 31, 1894, inclusive.

Under 1 year	5
From 1 to 10 years	8
" 10 " 20 "	89
" 20 " 30 "	733
" 30 " 40 "	960
" 40 " 50 "	905
" 50 " 60 "	593
" 60 " 70 "	317
" 70 " 80 "	215
" 80 " 90 "	22
" 90 " 100 "	2
Unknown	5
Born in Almshouse	16
Total	3,870

TABLE D.

Showing the Period of Residence in the City of All Persons Admitted to the Almshouse from January 1, 1894, to December 31, 1894, inclusive.

Born in Baltimore	857
Less than one week	77
One week and less than one month	141
One month and less than three	118
Three months and less than six	126
Six months and less than twelve	118
One year and less than two	131
Over two years	2,276
Unknown	10
Born in Almshouse	16
Total	3,870

TABLE E.

Showing the Habits of Persons Admitted to the Almshouse from January 1, 1894, to December 31, 1894, inclusive.

Intemperate adults	3,405
Temperate adults	436
Unknown	4
Children of intemperate adults	15
Children of temperate adults	10
Total	3,870

TABLE F.

Showing the Daily and Monthly Average of Persons in the Almshouse from Jan. 1, 1894, to Dec. 31, 1894, inclusive.

1894. Daily Average.	WHITE.			COLORED.			Total Daily Average.	WHERE FROM.		Totals.
	Men.	Women.	Children.	Men.	Women.	Children.		Natives of City and one year's Residence.	Elsewhere	
January	1,084	378	13	106	91	2	1,674	1,202	472	1,674
February	1,169	388	14	112	90	2	1,775	1,313	462	1,775
March	926	383	16	98	92	1	1,516	1,056	460	1,516
April	725	379	15	89	96	1	1,305	807	498	1,305
May	620	374	13	84	98	2	1,191	872	319	1,191
June	575	365	15	78	100	3	1,136	812	324	1,136
July	622	355	13	80	99	3	1,172	805	367	1,172
August	616	341	13	83	102	3	1,158	777	381	1,158
September	627	339	14	82	102	2	1,166	818	348	1,166
October	689	339	10	91	105	2	1,236	762	474	1,236
November	776	347	15	94	112	2	1,346	926	420	1,346
December	881	356	15	108	108	4	1,472	802	670	1,472
Total	9,310	4,344	166	1,105	1,195	27	16,147	10,952	5,195	16,147
Monthly average	$775\frac{10}{12}$	362	$13\frac{10}{22}$	$92\frac{1}{12}$	$99\frac{7}{12}$	$2\frac{3}{12}$	$1,345\frac{7}{12}$	$912\frac{8}{12}$	$432\frac{11}{12}$	$1,345\frac{7}{12}$

TABLE G.

Showing the Number of Persons Committed to the Almshouse by Magistrates, and their Age, Sex, Color and Period of Commitment, from January 1, 1894, to December 31, 1894, inclusive.

1894.	SEX AND AGE.			COLOR.			PERIOD OF COMMITM'T.			
	Males Over 21.	Females Over 18.	Total.	White.	Colored.	Total.	Under 3 Months.	3 to 6 Months.	6 months and Over.	Total.
January	11	5	16	15	1	16	3	6	7	16
February	9	3	12	9	3	12	5	3	4	12
March	4	2	6	4	2	6	1	2	3	6
April	1	1	2	1	1	2	1	1	.....	2
May	10	5	15	14	1	15	12	.....	3	15
June	9	2	11	7	4	11	9	1	1	11
July	5	2	7	7	.....	7	7	.....	.....	7
August	8	6	14	8	6	14	5	6	3	14
September	9	3	12	9	3	12	8	1	3	12
October	8	7	15	13	2	15	7	4	4	15
November	8	4	12	12	.....	12	5	4	3	12
December	9	3	12	12	.....	12	4	5	3	12
Total	91	43	134	111	23	134	67	33	34	134

TABLE H.

Showing the Birthplace of Persons Committed to the Almshouse as Vagrants, etc., by Magistrates from January 1, 1894, to December 31, 1894, inclusive.

NATIVES.		FOREIGNERS.	
Baltimore	45	Germany	22
Maryland	16	Ireland	16
Virginia	8	England	4
New York	6	France	3
Pennsylvania	4	Canada	2
Texas	1	Russia	1
California	1	Belgium	1
		Spain	1
		Wales	1
		Italy	1
		Poland	1
Total	81	Foreigners	53
		Natives	81
		Total	134

TABLE I.

Showing the Number of Births and Deaths in each Month, also the Sex and Color, from January 1, 1894, to December 31, 1894, inclusive.

1894.	BIRTHS.					DEATHS, ADULTS.				DEATHS, CHILDREN.			
	White Males.	White Females.	Colored Males.	Colored Females.	Total.	White Males.	White Females.	Colored Males.	Colored Females.	White Males.	White Females.	Colored Males.	Total.
January	..	1	..	..	1	13	3	3	5	..	..	..	24
February	1	..	..	..	1	7	2	1	2	..	..	..	12
March	..	1	..	..	1	13	5	5	3	..	1	1	28
April	..	..	..	..	..	7	..	3	2	1	..	..	13
May	..	..	1	1	2	9	4	4	1	..	..	..	18
June	..	..	..	2	2	7	3	4	1	..	..	..	15
July	1	..	..	..	1	8	3	7	3	..	..	..	21
August	1	..	1	..	2	6	1	4	3	1	..	..	15
September	..	..	..	..	..	3	6	2	1	1	..	..	13
October	2	1	..	..	3	12	7	2	1	..	..	..	22
November	2	..	..	..	2	11	3	7	4	..	..	..	25
December	..	..	..	1	1	9	4	1	1	..	..	..	15
Total	7	3	2	4	16	105	41	43	27	3	1	1	221

TABLE K.

Showing the Daily and Monthly Average of Persons Admitted to and Discharged from the Almshouse from January 1, 1894, to December 31, 1894, inclusive.

1894.	Admitted.	Daily Average.	Discharged.	Daily Average.	Increase.	Decrease.	Totals—Increase and Decrease.
January.....	651	21	515	16	5	....	5
February.....	457	16	374	13	3	....	3
March.....	195	6	561	18	....	12	12
April.....	176	5	256	8	....	3	3
May.....	134	4	200	6	....	2	2
June.....	154	5	98	3	2	....	2
July.....	221	7	186	6	1	....	1
August.....	204	6	164	5	1	....	1
September.....	270	9	180	6	3	....	3
October.....	353	11	249	8	3	....	3
November.....	394	13	196	6	7	....	7
December.....	645	20	390	12	8	....	8
Total.....	3,854	127	3,369	111	33	17	50

The daily and monthly average of births, deaths and elopements during the year is less than the unit 1. See Table A.

TABLE L.

Showing Work Done by Inmates from January 1, 1894, to December 31, 1894, inclusive.

25,371	days	labor, at $1.00	$25,371 00
3,300	"	washing and ironing, at 50 cents.	1,650 00
2,475	"	carpentering, at $1.50	3,712 50
305	"	upholstering, at $1.50	457 50
1,225	"	painting and glazing, at $1.50	1,837 50
450	"	tinning, etc., at $1.50	675 00
475	"	bricklaying and mason-work, at $1.50	712 50
1,525	"	tailoring, at $1.50	2,287 50
965	"	shoemaking, at $1.50	1,447 50
619	"	blacksmithing, at $1.50	928 50
2,945	shirts	made, at 12 cents	353 40
861	undergarments	made, at 15 cents	129 15
476	frocks	made, at 30 cents	142 80
930	pairs of drawers	made, at 20 cents	186 00
199	pairs of stockings	made, at 20 cents	39 80
543	aprons	made, at 5 cents	27 15
82	flannel shirts	made, at 15 cents	12 30
348	bed ticks	made, at 15 cents	52 20
499	bed sheets	made, at 5 cents	24 95
11	window curtains	made, at 10 cents	1 10
17	women's jackets	made, at 20 cents	3 40
280	towels	made, at 5 cents	14 00
19	slips	made, at 20 cents	3 80
176	bed quilts	made, at $1.50	264 00
525	pillow cases	made, at 15 cents	78 75
243	pillow ticks	made, at 5 cents	12 15
8	mosquito nets	made, at 50 cents	4 00
	Total		$40,428 45

TABLE M.

Showing the Quantity of Clothing Issued to the Inmates from January 1, 1894, to December 31, 1894, inclusive.

1894.	Pairs of Shoes and Slippers.	Shirts.	Pairs of Men's Hose.	Trowsers.	Vests.	Coats.	Jackets.	Hats.	Drawers.	Flannel Shirts.	Slips.	Dresses.	Pairs Women's Stockings.	Aprons.	Women's Jackets.	Undergarments
January ...	106	160	240	30	23	23	12	28	60	...	6	63	109	51	....	48
February...	166	256	120	27	18	13	2	12	118	9	...	56	213	26	....	25
March	240	311	180	74	47	46	3	23	65	22	....	49	142	93	10	46
April	125	294	120	35	30	27	4	27	77	3	1	38	67	37	....	57
May	132	290	140	35	6	32	....	92	73	1	....	34	153	33	....	60
June.....	70	272	120	56	2	2	....	41	93	....	...	38	98	72	1	54
July.....	60	268	180	101	5	4	4	22	59	2	....	16	52	21	3	43
August.	154	134	240	45	....	....	2	13	41	2	...	15	48	30	....	45
September..	96	238	180	37	1	1	1	17	58	4	....	42	46	52	....	40
October....	158	299	280	42	12	9	3	73	82	12	....	14	160	95	1	157
November..	133	227	120	30	10	7	1	31	110	27	12	29	192	26	2	141
December ..	132	296	240	53	27	23	...	22	94	24	....	82	205	56	....	145
Total.....	1572	2945	2160	565	181	187	32	401	930	106	19	476	1485	592	17	861

TABLE N.

Showing the Names, Quantity and Average Cost of Articles Purchased for the Institution from January 1, 1894, to December 31, 1894.

A.

Alcohol,	28¾	gals., at $2.50 per gal.
Apples, green,	18	bbls., at $2.39 per bbl.
Apples, dried,	240	lbs., at 8 cts. per lb.
Axle grease,	1	bkt., at $1.00 per bkt.

B.

Brushes, paint,	14½	doz., at $5.46 per doz.
Brushes, scrub,	16	doz., at $1.50 per doz.
Brushes, shoe,	2	doz., at $2.63 per doz.
Brushes, whitewash,	7	doz., at $13.50 per doz.
Brooms, corn,	49	doz., at $2.75 per doz.
Brooms, hickory,	10	doz., at $2.75 per doz.
Brooms, street,	1	doz., at $5.75 per doz.
Buckets, pulp,	28	doz., at $3.13⅓ per doz.
Buckets, galvanized, extra large,	1	doz., at $18.00 per doz.
Bricks, assorted,	41,700,	at $10.08 per M.
Bricks, fire, large,	14,000,	at $31.50 per M.
Bed ticking,	1,971 yds.,	at 15 cts. per yd.
Bed spreads,	36	at $1.20 each.

TABLE N—Continued.

Bed quilts,	144	at $1.20 each.
Bed blankets,	300	at 1.04\frac{1}{5}$ each.
Butter,	7,093	lbs., at 20$\frac{1}{8}$ cts. per lb.
Barley,	5,100	lbs., at $2.65 per 100 lbs.
Beans,	386$\frac{3}{6}\frac{8}{2}$	bus., at $1.65 per bus.
Bacon, shoulder,	48,141	lbs., at 7$\frac{5}{6}$ cts. per lb.
Bacon, S. C. shoulder,	4,714	lbs., at 8$\frac{3}{8}$ cts. per lb.
Bacon, ham,	4,285	lbs., at 11$\frac{1}{2}$ cts. per lb.
Beef, roast,	4,574	lbs., at 10$\frac{1}{1}\frac{1}{0}$ cts. per lb.
Beef, steak,	8,071	lbs., at 9$\frac{7}{8}$ cts. per lb.
Beef, round,	5,184	lbs., at 5 cts. per lb.
Beef, corned,	956	lbs., at 5 cts. per lb.
Beef, general house,	171,639	lbs., at 4$\frac{1}{4}$ cts. per lb.

C.

Candles,	120	lbs., at 10 cts. per lb.
Charcoal,	160	b'gs, at 40 cts. per bag.
Coal, Cumberland,	1,543$\frac{1}{2}\frac{0}{2}\frac{4}{4}\frac{5}{0}$	t'ns, at 3.23\frac{2}{3}$ per ton.
Coal, Sunbury,	221$\frac{1}{2}\frac{6}{2}\frac{8}{4}\frac{0}{0}$	t'ns, at $4.31 per ton.
Cement,	142	bbls, at $2.46 per bbl.
Clothing, men's ready made,		$369.30.
Crash,	559$\frac{1}{2}$	yds., at 6$\frac{3}{5}$ cts. per yd.
Cotton bats,	100	lbs., at 8$\frac{1}{2}$ cts. per lb.
Chamois skins,	3	at 58 cts. each.
Combs, dressing,	12	doz., at 80 cts. per doz.
Combs, fine-tooth,	18	doz., at 45 cts. per doz.

TABLE N—Continued.

Construction account,		$923.51.
Cakes, assorted,	2,754	lbs., at 8½ cts. per lb.
Crackers, water,	1,595	lbs., at 7 cts. per lb.
Crackers, soda,	470	lbs., at 8 cts. per lb.
Cheese,	303	lbs., at 12⅞ cts. per lb.
Coffee, Java,	2,039	lbs., at 25¾ cts. per lb.
Coffee, Rio,	11,570	lbs., at 18 cts. per lb.
Coffee, essence,	1,867	lbs., at 4¾ cts. per lb.

D.

Drugs (per contract),		$3,222.94.
Disinfectant,	52	lbs., at 50 cts. per lb.
Dress goods, calico,	1,401	yds., at 5⅜ cts. per yd.
Dress goods, gingham,	222	yds., at 5½ cts. per yd.
Dress goods, satines,	1,468	yds., at 9¾ cts. per yd.
Dress goods, domestic plaids,	3,220	yds., at 6½ cts. per yd.
Dress goods, colored drilling,	183	yds., at 5 cts. per yd.

E.

Engineer's stores and repairs,	$1,966.20.

F.

Flannel, for lining,	179	yds., at 5 cts. per yd.
Flannel, canton,	858	yds., at 8 cts. per yd.

TABLE N—Continued.

Flannel, red,	109	yds., at 22½ cts. per yd
Files, saw,	2½	doz., at 72 cts. per doz.
Furniture, etc.,		$389.74.
Farm account,		$664.23.
Flour, extra,	2,744	bbls, at $3.04⅙ per bbl.
Flour, family,	52	bbls, at $4.77 per bbl.
Fish, mackerel,	4	bbls, at $14.75 per bbl.
Fish, herring,	13	bbls, at $3.15 per bbl.
Fish, herring, fresh,	2,600	at $3.00 per M.
Fish, Cod,	80	lbs., at 3½ cts. per lb.
Feed, oats,	585	bus.,at 43 cts. per bus.
Feed, grain,	3,477	bus.,at 8 cts. per bus.
Feed, bran,	67,000	lbs., at 92 cts. per cwt.
Feed, corn-chop,	47,000	lbs., at $1.05 per cwt.
Feed, corn on ear,	300	bbls.at $2.25 per bbl.
Feed, hay,	$47\frac{965}{2000}$	tons at $13.13 per ton.

G.

Glass and Queensware,		$152.28.
Glass, window,	11	bxs., at $2.18 per box.
Gum sheeting,	144	yds., at 94½ cts. per yd.
Glue,	47	lbs., at 18¾ cts. per lb.

H.

Hose, men's,	180	doz., at 75 cts. per doz.
Hose, women's,	111¼	doz., at 87 cts. per doz.
Hats, felt,	22	doz., at $3 per doz.

TABLE N—Continued.

Hats, straw,	16	doz., at $1.84⅜ per doz.
Handkerchiefs,	11	doz., at 67 cts. per doz.
Handkerchiefs, head,	6	doz., at $2 per doz.
Holland, curtains,	182	yds, at 31.1-6 cts. per yd.
Harness and repairs,		$89.60.
Hardware,		$291.12.
Hops,	180	lbs. at 28⅓ cts. per lb.
Hominy,	29	bbls. at $2.73 per bbl.

I.

Ice, northern,	144½ 6 3 0 0 0	tns, at $5.27 per ton.

L.

Live stock,		$240.00.
Leather, sole	1,101 lbs.,	at 24 cts. per lb.
Leather, calfskins,	11,	at $2.18 each.
Lime, chloride,	1,793 lbs.,	at 4 cts. per lb.
Lime, alum,	200 bush.,	at 27 cts. per bu.
Lime, hair,	3 bushels,	at 25 cts. per bu.
Lime, whitewash,	78 barrels,	at 99 cts. per bbl.
Lye, concentrated,	1 case, 4doz.,	at $2.75 per case.
Lead, white, in oil,	8,250 lbs.,	at 6¼ cts. per lb.
Lumber, assorted,		$1,378.69.
Lard,	2,619 lbs.,	at 8½ cts. per lb.

M.

Muslin, brown,	9,536 yds.,	at 5⅔ cts. per yd.
Muslin, striped shirtings,	4,964 yds.,	at 6⅝ cts. per yd.

TABLE N—Continued.

Muslin, sheeting,	451½ yds.,	at 16⅔ cts. per yd.
Men's wear,	2,655 yds.,	at 16⅔ cts. per yd.
Matches,	182 gross,	at 75 cts. per gro.
Malt,	6 bushels,	at $1.05 per bu.
Miscellaneous,		$6,044.08.
Meal, corn,	7,900 lbs.,	at 1¼ cts. per lb.
Meal, buckwheat,	100 pounds,	at 2 3/10 cts. per lb.
Meal, oat,	1 barrel,	at $4.75 per bbl.
Molasses,	1,003½ gals.,	at 17 cts. per gal.
Mutton,	32,458 lbs.,	at 3 cts. per lb.

N.

Nails,	14 kegs,	at $2.43 per keg.
Notions,		$274.53.

O.

Oil, lard,	104 gals.,	at 62½ cts. per gal.
Oil, gas,	350 bbls.,	at $5.73 per bbl.

P.

Paints, etc.,		$583.74.
Putty,	250 lb.	at 3 cts. per lb.
Plaster, ground,	1 ton	at $8 per ton.
Patatoes,	2,620½ bu.	at 71⅓c. per bush.
Peas, dried green,	176 5/60 bu.	at $1.20 per bu.
Pies,	2,650	at 6 cts. each.

TABLE N—Continued.

R.

Rice,	7,770	lb.	at 5 cts. per lb.
Repairs in general,			$2,425.72.

S.

Slip-stuff,	765½	yds.,	at 8½ cts. per yd.
Shoes, men's,	949	prs.,	at $1 per pair.
Shoes, women's	240	prs.,	at 86½ cts. per pair.
Shoes, children's,	6	prs.,	at 75 cts. per pair.
Slippers, men's,	324	prs.,	at 72 cts. per pair.
Slippers, women's,	120	prs.,	at 60 cts. per pair.
Shoe laces, leather,	37	gr.	at 65 cts. per gross.
Shoe laces, linen,	4	gr.	at 70 cts. per gross.
Suspenders,	17	doz.	at $2.25 per doz.
Shawls,	6	doz.	at $7 per doz.
Shoe findings,			$22.15.
Soap, Ivory,	2	boxes,	at $4 per box.
Soap, white,	10,016	lbs.,	at 5½ cts. per lb.
Soap, brown,	10,921	lbs.,	at 3½ cts. per lb.
Starch, corn,	960	lbs.,	at 6 cts. per lb.
Starch, laundry,	810	lbs.,	at 3½ cts. per lb.
Spices,			$80.65.
Sugar, white,	13,280	lbs.,	at 4½ cts. per lb.
Sugar, brown,	20,792	lbs.,	at 3¼ cts. per lb.
Salt, fine,	74	sks.,	at 84 cts. per sack.

TABLE N--Concluded.

Salt, G. A.,	50	sks., at 54 cts. per sack.
Sal-soda,	1,125	lbs., at $1.07 per cwt.
Straw, wheat,	$81\frac{2}{2}\frac{2}{0}\frac{8}{0}\frac{}{0}$	tns., at $9.58 per ton.
Stoves, grates, repairs and utensils,		$196.37.
Shoeing and repairing,		$426.28.
Surgical instruments,		$305.07.
Spectacles,	$15\frac{1}{1}\frac{}{2}$	doz., at $2.50 per dozen.
Spoons,	30	doz., at 60 cts. per doz.

T.

Tea, G. P.	352	lbs., at 48 cts. per lb.
Tea, imperial and black,	1,639	lbs., at 25 cts. per lb.
Tobacco,	6,548⅓	lbs., at 21½ cts. per lb.
Towels and napkins,	21	doz., at $2.36 cts. per doz.
Table-cloths,	2	at 87½ cts. each.
Tin,		$58.90.
Tin, solder for,	71½	lbs., at 13½ cts. per lb.
Tin cans,	1,500	lbs., at 3 cts. each.

V.

Vinegar,	566	gals., at 16 cts. per gal.
Vaccine points,	200	at 6 cts. each.

W.

Whiskey, Dispensary,	456	gals., at $1.87½ cts. per gal.
Wood, pine,	38	cds. at $2.84 per cd.

REPORT OF THE ENGINEER.

BAY VIEW ASYLUM, January 1, 1895.

To the Honorable Board of Trustees:

GENTLEMEN:

I herewith present this my Annual Report of the Institution as Engineer for the pear ending December 31, 1894.

Very respectfully,

JAMES J. FARRELL,

Engineer.

Total Amount of George's Creek Coal Consumed, and by what Department of the Institution.

Departments.	Pounds.	Tons.	Pounds.
Tubular boilers	3,316,245	1,480	1,045
Blacksmith shop	6,720	3	
Total	3,322,965	1,483	1,045

Total Amount of Sunbury Coal Consumed, and by what Department of the Institution.

Departments.	Pounds.	Tons.	Pounds.
Centre-house kitchen	83,720	37	840
Matron's kitchen	65,520	29	560
Ironing-room	37,440	16	1,600
Bake-house	84,500	37	1,620
Annex hospitals	103,650	46	610
Insane hospitals	50,960	22	1,680
Main gate	11,760	5	560
East gate	8,820	3	2,100
West gate	6,720	3	
Carpenter shop	9,800	4	840
Total	462,890	202	10,410

George's Creek coal on hand Dec. 31, 1894 .. .. 60 tons.

Sunbury coal on hand Dec. 31, 1894 .....105 tons.

JAMES J. FARRELL,
Engineer.

REPORT OF THE GARDENER.

BAY VIEW ASYLUM, January 1, 1895.

To the Honorable Board of Trustees:

GENTLEMEN:

I herewith most respectfully submit my annual report as gardener of the institution for the year ending December 31, 1894.

Respectfully,

JOHN F. BARRANGER,
Gardener.

Articles.	Bush.	Bunch	Doz.	Gals.	Lbs.	Tons.	No. of.	Prices.	Totals
Cabbage	.....	.....	.....	.....	.....	.....	7,330	$3 00	$219 90
Tomatoes	1,196¼	.....	.....	.....	.....	.....	.....	75	898 09
Potatoes	496	.....	.....	.....	.....	.....	.....	70	347 20
Turnips	1,082	.....	.....	.....	.....	.....	.....	50	541 00
Carrots	465¼	.....	.....	.....	.....	.....	.....	75	348 94
Carrots	.....	593	.....	.....	.....	.....	.....	5	29 65
Parsnips	372	.....	.....	.....	.....	.....	.....	50	186 00
Celery	.....	2,587	.....	.....	.....	.....	.....	8	206 96
Pickles	.....	.....	.....	.....	.....	.....	4,194	¼	10 48
Radishes	.....	5,065	.....	.....	.....	.....	.....	2	101 30
Green Peas	219½	.....	.....	.....	.....	.....	.....	75	164 63
String Beans	185	.....	.....	.....	.....	.....	.....	50	92 50
Leeks	.....	3,172	.....	.....	.....	.....	.....	3	95 16
Parsley	.....	5,657	.....	.....	.....	.....	.....	2	113 14
Lettuce	.....	.....	.....	.....	.....	.....	325	5	16 25
Onions	174¼	.....	.....	.....	.....	.....	.....	1 00	174 25
Spring onions	.....	13,861	.....	.....	.....	.....	.....	3	415 83
Onion (sets)	35	.....	.....	.....	.....	.....	.....	5 00	175 00
Broccoli	330	.....	.....	.....	.....	.....	.....	50	165 00

Thyme		5,307					2	106 14
Sage		135					2	2 70
Lima Beans	64						75	48 00
Beets	56½						50	28 25
Beets		1,632					4	65 28
Peppers	7						2 00	14 00
Cabbage sprouts	200						20	40 00
Kale	217						25	54 25
Gumbos	50½						2 00	101 00
Horse radish						20 stks	5	1 00
Cymblings			28⅔				10	2 87
Green corn			277½				12	33 30
Butter				2,785			25	696 25
Eggs			2,056				20	411 20
Milk				21,739			16	3,478 24
Cream				21½			50	10 75
Pigs						13	2 50	32 50
Pork				3,536			8	282 88
Timothy hay					7		13 00	91 00
Oats, hay					8		13 00	104 00
Green rye						61 lds	75	45 75
Corn fodder						269 lds	75	201 75
Sand						325 lds	50	162 50
Total								$10,314 89

REPORT OF THE BAKER.

BAY VIEW ASYLUM, January 1, 1895.

To the Honorable Board of Trustees :

GENTLEMEN :

I hereby most respectfully present this my Annual Report as Baker of this institution for the year ending December 31, 1894.

Respectfully,

CHARLES JONES,
Baker.

Flour received		2,286 bbls.
Loaves on hand January 1, 1894	1,035	
Loaves of bread baked	533,599	
Total	534,634	
Loaves of bread delivered	533,203	
Loaves on hand January 1, 1895	1,431	
Weight of bread baked	666,998¾	lbs.
Average weight of each loaf	1 lb., 4 ozs.	

REPORT

OF THE

Medical and Surgical Departments.

Bay View Hospital.

Resident Physicians:

H. H. Hayden, M.D. F. Caruthers, M.D.

Assistant Resident Physicians:

Charles W. Laciar, M.D. Richard H. Johnston, M.D.

Clinical Assistant Physician:

J. Fletcher Lutz, M.D.

Visiting Staff.

Physicians:

Thomas S. Latimer, M.D. Joseph T. Smith, M.D.
George J. Preston, M.D. William B. Canfield, M.D.
C. Hampson Jones, M.D. T. W. Clark, M. D.
Julius Friedenwald, M.D. Joseph E. Gichner, M.D.

Surgeons:

Charles F. Bevan, M.D. J. Holmes Smith, M.D.
J. W. Chambers, M.D. John G. Jay, M.D.
J. H. Branham, M.D. I. R. Trimble, M.D.
William F. Smith, M.D. Frank Martin, M.D.

Neurologists:

George J. Preston, M.D. H. J. Berkley, M.D.

Obstetrician:

J. Edwin Michael, M.D.

Gynæcologist:

Thomas Opie, M.D.

Pathologists:

N. G. Kierle, M.D. Casper O. Miller, M.D.

REPORT OF RESIDENT PHYSICIANS.

BAY VIEW ASYLUM, January 1, 1895.

To the Honorable President and
Members of the Board of Trustees:

GENTLEMEN:

We have the honor to submit the usual Annual Report of diseases treated in the hospital of Bay View Asylum during the year ending December 31, 1894.

By the annexed tabular statement it will be seen that there were remaining under treatment December 31, 1893, two hundred and fourteen (214) patients, and that there were admitted from January 1, 1894, to December 31, 1894, two thousand seven hundred and eighty-three (2,783), making a total of two thousand nine hundred and ninty-seven (2,997).

Of this number there were cured one thousand six hundred and sixty-two (1,662); improved, five hundred and eighty (580); unimproved, three hundred and sixty-three (363); died, one hundred and seventy-eight (178); and remaining under treatment December 31, 1894, two hundred and fourteen.

While it will be seen that the number of cases treated is somewhat smaller than last year, it does not comprise the entire number of those who have been from time to time under medical treatment.

The above gratifying results have been obtained largely through the faithful attention of our visiting staff, to whom we are deeply indebted for their very efficient instructions.

To our assistants, Doctors Johnston and Laciar, also our druggist, James A. Tierney, we are under many obligations.

We are indebted to the superintendent, the matrons and the other officers of the institution for kindnesses to the sick under our care.

To your honorable Board we extend our hearty thanks for all favors and assistances given for the performance of our work.

We are, respectfully yours,

F. CARUTHERS,
H. H. HAYDEN.

MEDICAL AND SURGICAL STATISTICS.

Medical Diseases.

Classified according to the nomenclature as published by the Royal College of Physicians, of London, and American Medical Association.

Diseases.	Treated.	Discharged.				Remaining December 31, 1894.
		Cured.	Improved.	Unimproved.	Died.	
General Diseases.						
A.						
Anæmia, idiopathic	11	10	....	....	....	1
" simple	3	3	....	....	....	....
Erysipelas, facial	5	3	....	....	....	2
" of leg	2	2	....	....	....	....
" cellulo-cutaneous	3	2	1	....	....	....
Fever, intermittent	108	93	12	2	....	1
" ephemeral	3	2	1	....	....	....
" remittent	16	11	3	1	....	1
" typhoid	14	10	....	....	3	1
Septicæmia	4	2	....	....	2	....
B.						
Malarial cachexia	48	45	2	....	....	1
Alcoholism	85	62	14	5	....	4
Colica, pictonum	2	1	1	....	....	....

MEDICAL DISEASES—Continued.

Diseases.	Treated.	Discharged.				Remaining December 31, 1894.
		Cured.	Improved.	Unimproved.	Died.	
Delirium tremens	4	4	....	....	....	....
Malingering	5	....	2	3	....	....
Opium poison	1	1	....	....	....	....
Rheumatism, acute articu'r	32	26	6	....	....	....
" chronic	75	....	47	19	....	9
" sub-acute	51	44	6	....	....	1
" gonorrheal	11	2	5	3	....	1
" syphilitic	11	....	5	6	....	....
Senility	10	....	....	1	9	....
Diseases of the Circulatory System.						
Aneurism, aortic	2	....	....	2	....	....
" abdominal	1	....	....	....	1	....
" innominate	5	....	....	4	1	....
Angina pectoris	2	....	1	....	1	....
Apoplexy	14	1	5	....	8	....
Arterio, sclerosis	4	....	....	2	2	....
Endocarditis	3	1	....	....	2	....
Heart, aortic stenosis	19	....	7	10	1	1
" " regurgitation	26	....	4	14	8	....
" mitral stenosis	5	....	2	2	....	1
" " regurgitation	43	....	13	20	5	5
Pericarditis	3	2	....	....	1	....
Phlebitis	3	2	....	....	....	1
Thrombus cerebral	3	....	....	....	3	....

MEDICAL DISEASES—Continued.

Diseases.	Treated.	Discharged.				Remaining December 31, 1894.
		Cured.	Improved.	Unimproved.	Died.	
Diseases of the Respiratory System.						
Asthma	15	2	12	1	....	....
Bronchitis, acute	28	25	2	....	1	....
" sub-acute	86	81	4	....	....	1
" capillary	1	....	....	....	....	1
" chronic	30	19	7	3	1	....
Coryza, acute	4	4	....	....	....	....
Emphysema	10	....	2	7	....	1
Empyema	2	....	1	1	....	....
Gangrene of lung	1	1	....	....	....	....
Influenza	27	26	....	....	1	....
Laryngitis, sub-acute	3	3	....	....	....	....
" chronic	6	....	1	3	....	2
Pleurisy, acute	15	13	2	....	....	....
" chronic	3	....	2	1	....	....
Pneumonia, catarrhal	3	1	....	....	2	....
" lobar	41	26	....	....	15	....
Pyo-pneumothorax	2	....	1	1	....	....
Phthisis pulmonalis	179	....	46	67	41	25
Rhinitis, atrophic	8	....	....	8	....	....
" hyperatrophic	5	....	5	....	....	....

MEDICAL DISEASES—Continued.

Diseases.	Treated.	Discharged.				Remaining December 31, 1894.
		Cured.	Improved.	Unimproved.	Died.	
Diseases of the Digestive System.						
Atonic dyspepsia	5	5				
Calculi, hepatic	1		1			
Cholera morbus	9	9				
Cirrhosis of liver	5			2	3	
" hypertrophic	1		1			
Chronic constipation	24	24				
Diarrhœa, acute	73	64	5		4	
" chronic	20	7	5	4	3	1
" tubercular	6		5	1		
Dysentery, acute	27	19	3		5	
" chronic	2	1	1			
Enteralgia	1	1				
Gastritis, acute	9	6	3			
" sub-acute	15	13	2			
" chronic	12	4	7	1		
Gastro-enteritis	3	3				
Hepatitis	1				1	
Jaundice, catarrhal	5	3	1			1
Peritonitis, pelvic	3	3				
" tubercular	2			1	1	
Stomatitis, ulcerative	6	6				
Ulcer of stomach	1		1			

MEDICAL DISEASES—Continued.

Diseases.	Treated.	Discharged.				Remaining December 31, 1894.
		Cured.	Improved.	Unimproved.	Died.	
Diseases of the Fauces and Palate.						
Catarrh, post-nasal	3	....	1	2	....	....
Pharyngitis, acute	10	10	....	....	....	....
" chronic	15	4	4	7	....	....
Tonsillitis, simple	9	8	....	....	....	1
" follicular	9	9	....	....	....	....
" ulcerative	7	6	....	....	....	1
Diseases of the Cutaneous System						
Alopecia, areata	2	....	1	....	....	1
Dermatitis, medica ment'a.	1	1	....	....	....	....
" rhus	3	3	....	....	....	....
" venenata	5	5	....	....	....	....
Eczema, acute	5	5	....	....	....	....
" chronic	11	4	5	2	....	....
Herpes Zoster	1	1	....	....	....	....
Lupus	3	....	1	2	....	....
Pediculosis, caputis	16	16	....	....	....	....
" corporis	9	9	....	....	....	....
" pubis	21	21	....	....	....	....
Psoriasis, specific	3	3	....	....	....	....
" vulgaris	2	2	....	....	....	....

MEDICAL DISEASES—Continued.

Diseases.	Treated.	Discharged.				Remaining December 31, 1894.
		Cured.	Improved.	Unimproved.	Died.	
Scabies	3	2	1	....	....	....
Tinea Sycosis	4	3	1	....	....	....
" versicolar	2	2	....	....	....	....
Urticaria	6	6	....	....	....	....
Diseases of the Urinary System.						
Bright's disease, acute	12	4	4	....	4	....
" " chronic	47	....	14	11	19	3
Nephitis, tubercular	2	....	....	....	2	....
Cystitis	26	17	7	1	1	....
Calculi, renal	5	4	1	....	....	....
Diabetes, insipidus	3	....	1	1	....	1
" mellitus	4	....	....	1	....	3
Pyelitis	7	3	2	1	....	1
Diseases of the Ear.						
Cerumen, impacted	4	4	....	....	....	....
Otitis, externa	5	2	2	....	....	1
" media	4	4	....	....	....	....
Diseases of the Eye.						
Blepharitis, marginalis	6	6	....	....	....	...
Cataract	11	3	....	4	....	4

MEDICAL DISEASES—Continued.

Diseases.	Treated.	Discharged.				Remaining December 31, 1894.
		Cured.	Improved.	Unimproved.	Died.	
Conjunctivitis, simple	8	8	....	....	....	....
Ectopian	1	....	....	1	....	....
Trachoma	7	3	2	....	....	2
Iritis	15	11	3	....	....	1
Iridectomy	5	5	....	....	....	....
Keratitis	7	7	....	....	....	....
Retinitis pegmentosa	7	....	....	5	....	2
Strabotomy	4	3	1	....	....	....
Corneal ulcer	2	2	....	....	....	....
Pterygium	1	1	....	....	....	....
Optic neuritis	1	....	....	1	....	....
Diseases of the Nervous System.						
Cerebral concussion	2	2	....	....	....	....
Cephalgia	16	16	....	....	....	....
Chorea	2	....	....	2	....	....
Catalepsy	1	....	....	....	....	1
Dementia, senile	3	....	....	2	1	....
Effusion, brain	1	....	1	....	....	....
" ventricular	1	....	1	....	....	....
Epilepsy	30	....	10	8	....	12
Epilepticus, status	3	....	1	....	2	....
Gastralgia	3	....	2	1	....	....
General motor and sensory anasthesia	1	....	....	....	....	1

MEDICAL DISEASES—Continued.

Diseases.	Treated.	Discharged.				Remaining December 31, 1894.
		Cured.	Improved.	Unimproved.	Died.	
Hemiplegia	24	....	5	6	2	11
Hypochondriasis	1	....	1	....	....	....
Hysteria	4	.....	3	1	....	....
Insomnia	3	2	1	....	....	....
Lumbago	19	16	3	....	....	....
Mania, recurrent	4	....	1	....	....	3
" sub-acute	1	....	....	1	....	....
" alcoholic	2	....	2	....	....	....
Melancholia	3	....	2	1	....	....
Meningitis	4	....	....	....	4	....
Meningitis, cerebro-spinal	1	....	....	....	....	1
" tubercular	1	....	....	....	1	....
Migraine	12	10	2	....	....	....
Myalgia	44	44	....	....	....	....
Myelitis, acute	3	....	....	....	3	....
" sub-acute	7	....	2	2	....	3
" diffused	1	....	....	....	1	....
Neuralgia, facial	11	11	....	....	....	....
" intercostal	10	10	....	....	....	....
Neurasthenia	3	....	....	3	....	....
Neuritis, alcoholic	3	2	1	....	....	....
" multiple	2	....	....	....	1	1
" peripheral	5	5	....	....	....	....
" traumatic	2	....	1	....	....	1

MEDICAL DISEASES—Continued.

Diseases.	Treated.	DISCHARGED.				Remaining December 31, 1894.
		Cured.	Improved.	Unimproved.	Died.	
Paralysis, agitans	3	....	....	2	....	1
" Bell's	2	....	1	....	....	1
" crutch	2	....	1	....	....	1
" Erb's	1	....	....	....	....	1
Pleurodynia	8	7	1	....	....	....
Pott's disease	6	....	....	2	2	2
Sciatica	5	3	1	1	....	....
Sclerosis, lateral	2	....	....	2	....	....
" multiple	2	....	....	1	....	1
" postero-spinal	9	....	1	3	1	4
Tumor, cerebellar	2	....	....	1	....	1
Diseases of Women.						
Abortion	1	1	....	....	....	....
Antiflexion	15	....	5	7	....	3
Amenorrhœa	14	8	2	1	....	3
Cervix, laceration of	2	2	....	....	....	....
Dysmenorrhœa	25	9	5	8	....	3
Endocervicitis	9	4	2	3	....	....
Endometritis	13	6	4	1	....	2
Hypertrophy of labia	3	2	1	....	....	....
Mastitis	4	4	....	....	....	....
Menorrhagia	6	3	2	1	....	....
Metrorrhagia	2	....	2	....	....	....
Metritis, acute	1	1	....	....	....	....
Oopharectomy	1	1	....	....	....	....

MEDICAL DISEASES—Concluded.

Diseases.	Treated.	Discharged.				Remaining December 31, 1894.
		Cured.	Improved.	Unimproved.	Died.	
Ovarian, cystoma	3	....	....	3	....	....
Salpingitis	4	4	....	....	....	....
Uterus, fibroid of	5	....	1	2	....	2
" polypus of	1	....	....	1	....	....
" procidentia of	3	....	....	1	....	2
" retroflexion of	4	....	1	2	....	1
" retroversion of	4	....	....	2	....	2
Perineorrhaphy	1	1	....	....	....	....
Pruritis, vulvae	7	3	1	....	....	3
Vaginae, prolapse of	2	....	....	....	....	2
Sapræmia	5	4	....	....	....	1
Total medical diseases	2090	1086	378	305	167	154

SURGICAL DISEASES.

Diseases.	Treated.	Discharged.				Remaining December 31, 1894.
		Cured.	Improved.	Unimproved.	Died.	
Burns of arm	4	3	....	....	....	1
" face	1	1	....	....	....	....
" hand	2	2	....	....	....	....
" leg	6	6	....	....	....	....
Dislocation of clavicle	1	....	....	1	....	....
" hip	1	1	....	....	....	....
" humerus	2	2	....	....	....	....
" toe	1	....	....	1	....	....
Fracture of clavicle	4	4	....	....	....	....
" femur (neck)	3	1	....	1	1	....
" " (shaft)	6	4	1	....	....	1
" fibula	1	1	....	....	....	....
" finger	2	2	....	....	....	....
" humerus	4	4	....	....	....	....
" inf. maxillary	2	2	....	....	....	....
" olecranon	2	1	1	....	....	....
" patella	2	....	....	....	....	2
" ribs	8	7	1	....	....	....
" radius(colle's)	4	2	....	....	....	2
" tibia	4	4	....	....	....	....
" ulna	3	2	....	....	....	1
Frostbite	6	6	....	....	....	....
Oyster hand	30	27	1	....	....	2
Sprain of ankle	5	5	....	....	....	....
" arm	2	2	....	....	....	....
" hip	4	3	....	....	....	1
" knee	2	2	....	....	....	....
" shoulder	1	1	....	....	....	....

SURGICAL DISEASES—Continued.

Diseases.	Treated.	Discharged.				Remaining December 31, 1894.
		Cured.	Improved.	Unimproved.	Died.	
Sprain of wrist	6	5	....	....	....	1
Wounds, contused	13	13	....	....	....	....
" incised	11	11	....	....	....	....
" lacerated	24	24	....	....	....	....
" punctured	5	5	....	....	....	....
Venereal Diseases.						
Balanitis	10	10	....	....	....	....
Bubo	29	24	....	....	....	5
Chancroids	63	55	4	1	....	3
Epididymitis	12	10	....	....	....	2
Gonorrhœa	88	73	10	3	....	2
Herpes preputialis	2	2	....	....	....	....
Orchitis	5	4	1	....	....	....
Phimosis	23	22	....	....	....	1
Prostatitis, suppurative	5	1	3	1	....	....
Paraphimosis	6	6	....	....	....	....
Stricture, urethral	22	13	7	1	....	1
Syphilis, primary	35	....	33	....	....	2
" secondary	42	....	38	2	....	2
" tertiary	32	1	29	....	....	2
" congenital	3	....	1	2	....	....
Warts, veneral	5	5	....	....	....	....
Unclassified.						
Abscess of arm	6	5	1	....	....	....
" axillary	6	6	....	....	....	....

SURGICAL DISEASES—Continued.

Diseases.	Treated.	Discharged.				Remaining December 31, 1894.
		Cured.	Improved.	Unimproved.	Died.	
Abscess of buccal	9	7				2
" cervical	3	2	1			
" face	2	2				
" foot	3	3				
" hand	2	2				
" gluteal	1	1				
" labial	4	3	1			
" liver	1			1		
" lumbar	1	1				
" mammary	4	4				
" peri-rectal	5	5				
" thigh	2	2				
Anchylosis of hip	1			1		
" knee	1			1		
Amputation of arm	1	1				
" finger	3	3				
" leg	2	2				
Arthritis, deformans	3			2		1
" tubercular	3		2			1
Carcinoma of brain	1			1		
" mammary	1	1				
" liver	3			1	2	
" penis	1	1				
" stomach	3				3	
" rectum	1		1			
" uterus	3			1	1	1
Carbuncle	8	6	2			
Celiotomy	2	2				

SURGICAL DISEASES—Continued.

Diseases.	Treated.	Discharged.				Remaining December 31, 1894.
		Cured.	Improved.	Unimproved.	Died.	
Cyst, sebaceous	6	6	....	....	....	....
" meibomian	1	1	....	....	....	....
Cellulitis of hand	26	23	2	....	....	1
" leg	6	6	....	....	....	....
" foot	5	5	....	....	....	....
" pelvis	2	....	2	....	....	....
Coxalgia	1	....	....	1	....	....
Elephantiasis of leg	3	....	....	1	....	2
" of scrotum	1	....	....	1	....	....
Enchondroma of scapula	1	1	....	....	....	....
Epulis	1	....	....	....	....	1
Epithelioma of bladder	1	....	....	....	1	....
" of face	2	....	....	....	1	1
" of ear	1	1	....	....	....	....
" of nose	2	2	....	....	....	....
" of penis	1	1	....	....	....	....
" of foot	1	1	....	....	....	....
Fistula in ano	7	4	1	1	....	1
" in urethal	1	.....	....	1	....	....
" in vesico-rectal	2	1	1	....	....	....
" in vesico-vaginal	3	....	....	2	....	1
Furunculosis	11	10	1	....	....	....
Gumma of tibia	2	1	....	....	....	1
Hæmorrhoids	22	13	5	2	....	2
Hernia, inguinal	7	1	2	3	1	....
" femoral	2	....	1	1	....	....
" umbilical	1	....	1	....	....	....
" ventral	1	....	....	1	....	....

SURGICAL DISEASES—Concluded.

Diseases.	Treated.	Discharged.				Remaining December 31, 1894.
		Cured.	Improved.	Unimproved.	Died.	
Hydrocele	9	....	4	2	....	3
Intestinal obstruction	1	1	....	....	....	....
Lipoma	2	2	....	....	....	....
Lymphangitis	2	....	2	....	....	....
Necrosis of fibula	1	1	....	....	....	....
" femur	1	....	....	....	....	1
" frontal	1	....	1	....	....	....
" nasal	1	....	1	....	....	....
" tibia	5	1	2	....	....	2
Periostitis	2	2	....	....	....	....
Prolapsus of rectum	4	2	1	1	....	....
Resection of ribs	1	....	1	....	....	....
Sarcoma of sup-maxillary	1	....	....	....	....	1
" testicle	1	....	1	....	....	....
" inf. maxillary	1	....	....	....	1	....
Skingrafting	1	1	....	....	....	....
Synovitis	7	5	1	....	....	1
Stricture of rectum	6	2	1	1	....	2
Tubercular glands	9	5	4	....	....	....
Ulcer of leg	69	38	22	5	....	4
Ulcerated stump	2	2	....	....	....	....
Varicocele	7	....	3	4	....	....
Varix	13	....	3	10	....	....
Total Surgical Diseases.	907	576	202	58	11	60

Recapitulation.

Total Ingress	2,997
" Egress	2,783
Remaining in Wards December 31, 1894	214

REPORT

— OF THE —

RESIDENT PHYSICIAN

— OF THE —

BALTIMORE INSANE HOSPITAL.

REPORT.

To the Board of Trustees:

At the commencement of the year 1894 there were 378 patients in this asylum. During the course of the year 142 were admitted, 100 were discharged and 43 died, leaving 377 under treatment at its close. Of the 100 patients discharged 45 had recovered, 32 had improved and 23 were unimproved. The average daily population of the hospital was 383.

Of those admitted several have been treated here in the past, being subject to periodical attacks of excitement. Only a fractional part presented histories which would warrant a favorable termination, while the majority were subjects for treatment which would better their condition and lead to an existence of comparative comfort and quietude. Others again, cases of advanced dementia, utterly unable to attend to the wants of nature, and a burden to their relatives and friends, have been brought here to pass the balance of their days and receive the attention which their condition demands. In the class whose condition we can only ameliorate, the close confinement, the associations, the absence of diversion and entertainment of an exalting character lead in the course of time to marked deterio-

ration of mind and a degraded personality, to check which, and place the patient in a higher moral and physical condition, requires careful treatment in which drugs are of little value. The ward-work, the sewing by the women, and the small amount of out-door labor performed by the men answer a useful purpose, but this is drudgery and purely routine, and does not tend to elevate the mind. There is probably nothing better for this purpose, and nothing these people would enjoy more than evening entertainments and harmless diversions, consisting of singing, dancing, music, recitations, etc. I believe the order and quiet and decorum of the hospital wards, the increased happiness and great mental and physical improvement of this class of patients resulting from occupation and mental diversion cannot too often be noted.

Among the causes of death, phthisis stands pre-eminent. Apoplexy and cardiac diseases have claimed more than their usual number of victims. With the exception of two cases of acute dysentery we have had no deaths from acute infectious diseases. There has been no disease of an epidemic nature, nor has there been a case of death from traumatism or suicide.

The sanitary condition of the wards for violent and unclean patients has been improved by greater attention to cleanliness. The colored female ward has improved greatly under the care of more efficient attend-

ants. The use of restraint appliances for violent and destructive patients have become gradually less necessary, and are now but little used. There are but two inmates who require to be continually secluded. Personal liberty has been granted to those who will not abuse their privileges. An unused room has been fitted up as a laboratory for microscopical work and urinary analysis. This room also serves the purpose of an operating room for surgical work, and a repository for the books belonging to the library. Owing to the kindness of Drs. Berkley and Hurd and others, who have donated books, our library has considerably increased in size.

The over-crowded condition of the wards for violent and destructive patients should have most serious attention, and this evil remedied as soon as possible, as each succeeding year adds to the number of these unfortunates. It is often necessary to place dangerous patients in cells or dormitories with other inmates whose lives are thereby rendered unsafe, and we are fortunate indeed to have so far escaped accidents of a serious nature.

The officers of the institution have assisted in every way possible in the general working of this department, and the attendants have been most faithful and efficient in the care of the patients.

The services of the assistant resident physician, Dr. Didenhover, have been highly valued by me. He has discharged his duties acceptably to the patients and their friends, and with credit to himself and the hospital.

In the discharge of my duties as resident physician, I have received most valuable assistance and instruction from Dr. H. J. Berkley. I am also indebted to the other members of the visiting staff, Drs. VanNess, Singewald and Williams for their advice and help in the care of the patients.

Very respectfully,

JAMES A. WEST.

TABLE I

General Statement for the Year 1894.

	White Males.	White Females.	Colored Males.	Colored Females.	Totals.
Number of patients present December 31, 1893	153	144	28	53	378
Admitted from Baltimore	60	40	12	16	128
Transferred from Almshouse	10	....	3	1	14
Total in hospital during the year	223	184	43	70	520
Discharged	40	33	3	10	86
Transferred to Almshouse	7	3	....	4	14
Died	20	7	9	7	43
Total egress during the year.	67	43	12	21	143
Number of patients present December 31, 1894	156	141	31	49	377
Number of patients in hospital three times during the year	....	1	....	....	1
Number of patients in hosptial twice dering the year	4	5	....	....	9
Total in hospital more than once	4	6	....	....	10

TABLE II.

Time of Residence of those Discharged Otherwise than by Death.

	White Males.	White Females.	Colored Males.	Colored Females.	Totals.
One month or less	21	11	....	3	35
Between 1 and 3 months	9	7	....	5	21
" 3 " 6 "	4	5	1	3	13
" 6 " 12 "	3	7	....	1	11
" 1 " 2 years	3	3	1	....	7
" 2 " 4 "	....	2	1	....	3
" 4 " 6 "	2	....	....	....	2
" 6 " 8 "	1	....	....	2	3
" 8 " 10 "	3	....	....	....	3
Of 23 years	....	1	....	....	1
" 28 "	1	....	....	....	1
Total number discharged	47	36	3	14	100

TABLE III.

Showing Monthly Admissions, Discharges, Deaths and Averages.

	Admitted.	Discharged.	Died.	Averages.
January	15	6	2	380.45
February	12	3	4	385.89
March	13	13	4	386.19
April	10	10	1	383.00
May	11	9	1	383.74
June	9	9	4	383.53
July	12	6	3	381.19
August	13	6	5	385.19
September	13	13	5	382.70
October	9	4	5	382.42
November	10	7	6	380.07
December	15	14	3	379.52
Tot'l admitted, discharged and died	142	100	43	

Average number of patients in hospital during the year 382.82

Highest number of patients in hospital during the year 390

Lowest number of patients in hospital during the year 375

TABLE IV.

Nativity of Patients Admitted During the Year.

Baltimore City	61
Maryland	19
Virginia	6
District of Columbia	2
North Carolina	1
Georgia	1
Kentucky	1
Tennessee	1
New York	6
New Jersey	2
Pennsylvania	4
Illinois	1
Canada	2
England	2
Ireland	9
Belgium	1
Germany	17
Bavaria	1
Hungary	1
Russia	1
Russian-Poland	1
Unknown	2
Total admitted	142

TABLE V.

Showing Occupations of those Admitted during the year.

Architect	1	Laborers	25
Baker	1	Laundresses	7
Blacksmiths	2	Machinists	2
Bookkeepers	2	Merchants	2
Broker	1	Moulder	1
Butchers	4	Painter	1
Cabinetmaker	1	Printer	1
Cabman	1	Rigger	1
Carpenters	6	Sailor	1
Caulker	1	Saloonkeeper	1
Cigarmaker	1	Sawyer	1
Clerk	1	School teacher	1
Coachman	1	Sempstresses	4
Cook	1	Ship carpenter	1
Dentist	1	Shoemakers	3
Domestics	14	Stage carpenter	1
Dressmaker	1	Tailors	3
Engineer	1	Trimmer	1
Gardener	1	Varnisher	1
Harnessmaker	1	Weavers	2
Horseshoer	1	Wheelwright	1
Housekeeper	1	None	23
House wives	11	Unknown	1
Huckster	1		
			142

TABLE VI.

Showing the Form of Mental Disorders of those Admitted during the Year.

Mania, post-febrile	1
Mania, chronic	6
Mania, acute	12
Mania, periodical	1
Mania, epileptic	13
Mania, pre-senile	4
Mania, post-hemiplegic	3
Mania, puerperal	3
Mania, hysterical	1
Mania, transitory	1
Melancholia, chronic	5
Melancholia, acute	8
Melancholia, stuporous	1
Dementia, senile	6
Dementia, organic	7
Dementia, terminal	2
Dementia, epileptic	5
Dementia, paretic	6
Dementia, alcoholic	1
Dementia, syphilitic	1
Alcoholism, acute	11
Alcoholism, chronic	7
Imbecility	25
Idiocy	6
Paranoia	3
Delusional insanity, chronic	3
Total	142

TABLE VII.

Time of Residence of those who Died.

	White Males.	White Females.	Colored Males.	Colored Females.	Totals.
One month or less	1	....	....	....	1
Between 1 and 3 months	4	1	2	2	9
" 3 " 6 "	2	....	3	1	6
" 6 " 12 "	1	....	3	2	6
" 1 " 2 years	3	2	....	....	5
" 2 " 4 "	2	....	....	2	4
" 4 " 6 "	2	....	1	....	3
" 6 " 8 "	1	1	....	....	2
" 8 " 10 "	3	2	....	....	5
Of 15 years	1	....	....	....	1
Of 19 "	....	1	....	....	1
Total number of deaths	20	7	9	7	43

TABLE VIII.

Showing the Cause of all Deaths during the Year.

Phthisis	9
Apoplexy, cerebral	6
Cardiac, diseases	6
Bronchitis, capillary	1
Paralysis, general	4
Oedema, pulmonary	1
Oedema, cerebral	1
Meningitis, chronic	1
Congestion, cerebral	1
Nephritis, chronic interstitial	2
Influenza	1
Exhaustion, maniacal	1
Exhaustion from epilepsy	3
Senility	2
Dysentery, acute	2
Dementia	1
Peritonitis, acute	1
Total	43

TABLE IX.

Showing the Form of Mental Diseases of those who Died during the Year.

Dementia, senile	7
Dementia, terminal	7
Dementia, alcoholic	2
Dementia, traumatic	1
Dementia, organic	3
Dementia, paretic	7
Dementia, epileptic	2
Dementia, syphilitic	1
Mania, chronic	2
Mania, acute	1
Melancholia, chronic	1
Melancholia, acute	1
Delusional insanity, chronic	1
Paranoia	1
Imbecility	4
Idiocy	1
Mania, post-febrile	1
Total	43

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